



REPORT



## Windham Region, VT

Vermont Yankee Closure Impacts  
2019 Update on Economic Trends  
November 2019



*Since the closure of the Vermont Yankee nuclear power station (VY) at the end of December 2014, the Brattleboro Development Credit Corporation (BDCC) and Southeastern Vermont Economic Development Strategies (SeVEDS) have been tracking changes to the region's socioeconomic profile, including loss of wages, plant spending, and reduced overall gross regional product. Changes in the economy are due to changes in activity at the plant, including a reduction of jobs and a reduction in a well-paid local labor force due to retirements and relocations. This report provides an update to a first version issued in fall of 2017 to review evidence of VY closure economic impacts for Windham County, Vermont using available economic data. At this time, the region is approximately halfway through a ten year process of planning and mitigation of losses estimated at \$500 million per year in the tri-state region impacted by the VY closure.<sup>1</sup> To achieve full recovery, the region needs ongoing support, investment, strategic planning, and capacity for implementation. At this time federal funding to help communities recover economically from nuclear power plant closure is being considered by both house and senate.*

## **Recap of Plant Activity in Early Closure**

Employment at the Vermont Yankee site began to drop from a high of around 650, with some reductions taking place before power generation ceased on December 29, 2014. Staff levels at closure were just below 600 and were subsequently reduced over time. By March 2016 employment levels were down to 150. In May 2017, another round of reductions took place.

The timing of changes to plant activity, spending and employment are entirely dependent upon the cleanup model deployed. VY decommissioning had been structured as SAFSTOR, which would have deferred many activities to a later time (potentially decades) when relocation of spent fuel could take place. However, a sale of Vermont Yankee by Entergy to a new owner (NorthStar) was approved by Vermont regulators in December 2018. This deal is expected to speed up the cleanup timeline, with decommissioning in 2021. This should lead to a cleaner site, sooner, with more cleanup activity in the near term and thus more economic activity. The disposition of the spent fuel is still unresolved and it will remain on the site until new options become available. Federal efforts to resolve spent fuel storage appear to be stalled.

A decommissioning process typically involves only 100-200 workers. With the new ownership, the remaining workers at the VY site are no longer Entergy employees. NorthStar has no history in the region, its management of cleanup and decommissioning largely utilizing contractors and workforce based elsewhere. Therefore, while faster cleanup can be an economic plus, a decrease in using local workforce and vendors means reduction in local economic gains from cleanup and decommissioning activities. Changes are difficult to predict as this is a new approach to decommissioning being tested in Vermont. But research and modeling of economic impacts of operating plants has shown major differences based on plants that hire and spend locally, versus those who do not.

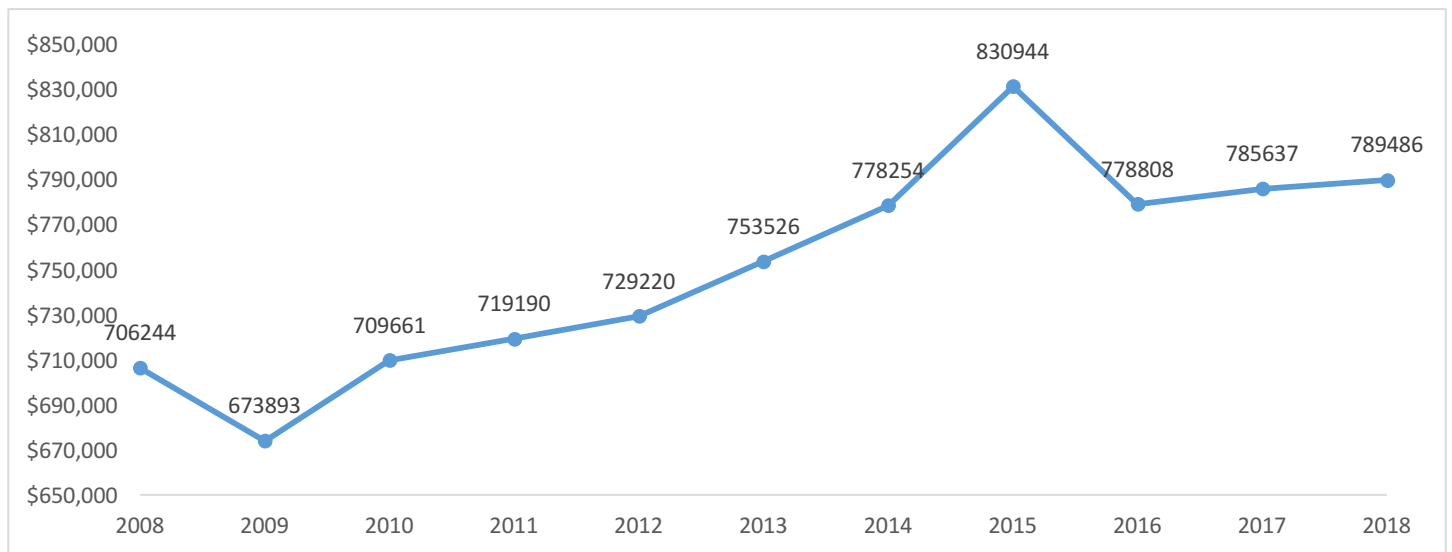
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<sup>1</sup> University of Massachusetts Donahue Institute (UMDI) 2014 Report pg 9 "Economic Impacts of Vermont Yankee Closure"

## DATASETS: Vermont Yankee Nuclear Power Plant Closure Impacts

- Wages: Windham County Private Sector Wages
- Manufacturing: Growth in Brattleboro vs. Vermont 2009-2018
- Wages: Private Sector Wage Growth, National vs. State and Regional Trends
- Wages: Private Sector Regional Trends Before and After VY Closure Impacts
- Gross Regional Product (GRP) & Utility Sector Contribution to GRP
- Labor Force & Unemployment

### Wages: Windham County Private Sector Wages



BLS QCEW Private Sector Wages, in 1,000s

County level private sector wages illustrate the impact of VY layoffs. Ten-year data shows the wage drop from 2015-2016 that accompanies a loss of jobs in that timeframe, and decrease in regional overall private sector wages. This reflects the first major wave of direct VY layoffs. The 2016 wage drop echoes the 2008 recession downturn, but is actually worse in total dollars and percentage lost. Of note is a steep rise from 2014-2015, greater than recent year over year previous growth trends. This bump is typical in nuclear power plant closures, likely due to a range of special personnel costs including retention payments to maintain critical staff, and relocation expenditures for workers staying with the company and relocating to other parts of the country. Demand for experienced nuclear workers is still high, despite plant closures, because personnel retirements still outstrip plant retirements.

## Manufacturing Growth – Brattleboro vs. Vermont 2009-2018

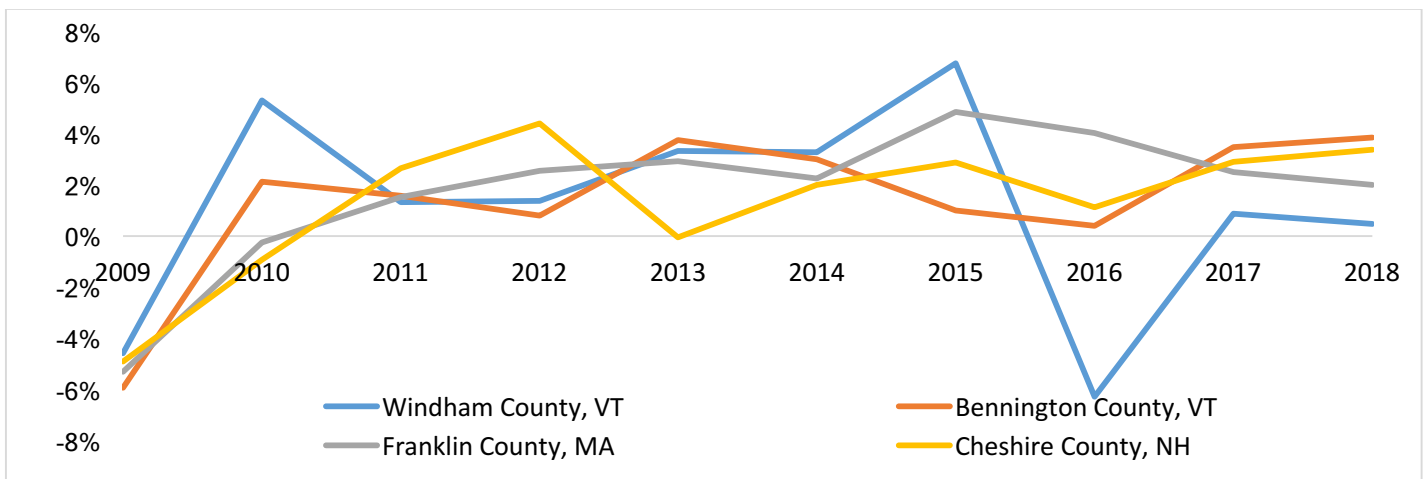
	Establishments		Employment		Avg Wage	
	2018	% chg from 2009	2018	% chg from 2009	2018	% chg from 2009
Brattleboro - Manufacturing Supersector	46	15	581	33.4	51025	14.4
Vermont - Manufacturing Supersector	1108	2.8	9827	-4.4	59390	14.6

*Source: Quarterly Census of Employment and Wages Program (QCEW) produced by the Economic and Labor Market Information Division of the Vermont Department of Labor in cooperation with the U.S. Bureau of Labor Statistics.*

Windham has experienced recent upward job creation trends in durable goods manufacturing and non-durable manufacturing, including value-added food and beverage production. Growth in this sector has played a major role in replacing jobs lost to the VY closure. The Windham region has experienced stronger growth in manufacturing than the state as a whole, due to a combination of trends, statewide investment in these sectors, and targeted investments and projects involving key employers and startups. These actions are guided by goals and strategies outlined in the federally approved 2014 Comprehensive Economic Development Strategies (CEDS), including the need to mitigate the impacts of VY closure, with a focus on high quality jobs and higher wages. Regional economic development efforts, in concert with local, state, and federal partners, have targeted strategic investment towards projects and initiatives that will help the region overcome closure impacts. This includes specific expansion and retention projects, small business and startup development, as well as workforce development and talent pipeline investments. Results of this work can be seen in 2017 wages where losses were fully offset, although growth still did not return to pre-closure levels.

While growth has been strong in a few specific sectors, part of the regional growth strategy is diversification. Fostering growth among multiple industry segments, and working with businesses and employers of all sizes, is designed to foster a more diverse and resilient regional rural economy.

### Wages: Private Sector Wage Growth, National vs. State and Regional Trends



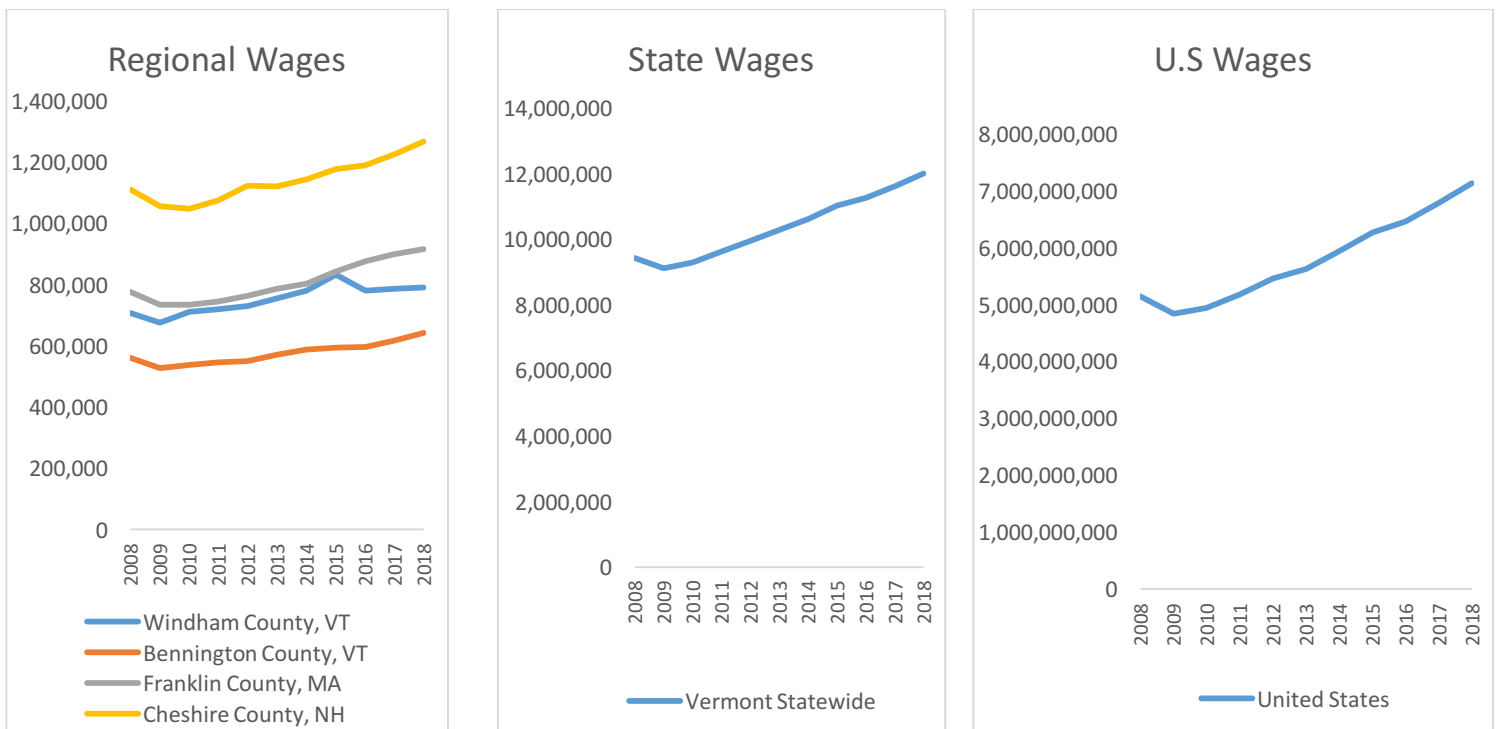
*Source: BLS QCEW*

In the five years leading up to the VY closure, and through the surge in wages around closure, Windham wages were rising faster than surrounding counties (2011-2015). This trend was significant because it fulfilled a major goal of the 2014 CEDS - to overcome a lag in Windham household incomes in comparison with neighboring counties. The neighboring counties were all impacted by VY closure with the workforce distributed among Vermont, New Hampshire, and Massachusetts.

As VY layoffs began to accrue, a significant setback in wage growth occurred in Windham in comparison with these neighboring regions. Franklin and Cheshire also felt the VY closure, but as the wages were paid in Windham County the data shows greatest losses in Windham. Impacts at the household earner level would provide a better measure of loss across all three states. Additionally, with the exception of Vermont’s Bennington county, other neighboring counties have economies that are larger, more diverse. Cheshire, Franklin and Windsor have slightly more favorable long-term demographic trends including some recent population growth, and populations that are slightly younger overall.

Windham’s 5-year wage growth has also lagged in comparison with Vermont overall. Getting back on track will require doing more than simply replacing the 600+ jobs lost to VY closure. VY jobs paid significantly above area median, and while job growth efforts are focusing on well-paid positions, they are typically not at the same level as compensation offered by the nuclear sector. VY closure recovery will require this region to add more jobs than it lost, and to keep expanding the quality of job opportunities and earnings.

### Wages: Private Sector Regional Trends Before and After VY Closure Impacts *In thousands*



BLS QCEW private sector wages

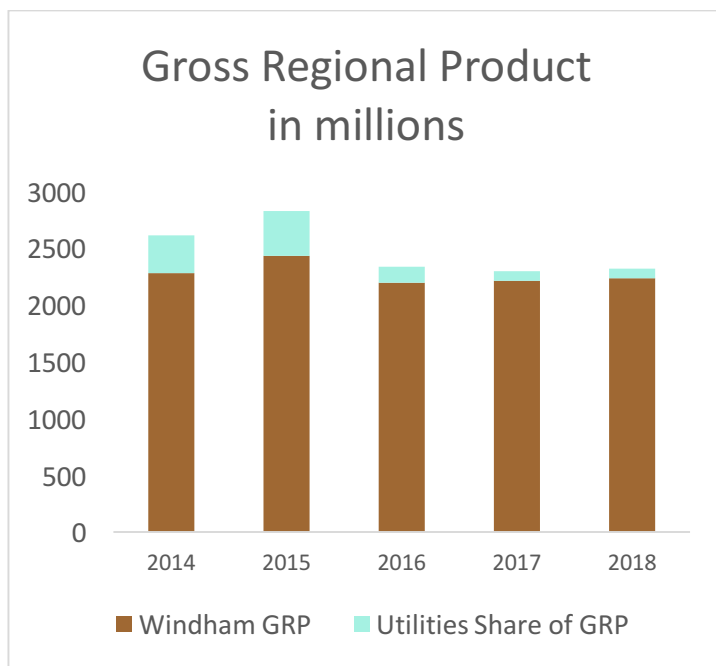
The long-term underlying economic conditions in the region have made closure recovery all the more difficult. Recovery from the 2008 recession was slow in southeastern Vermont, even with VY still operating for several years post-recession. Compared with national trends and metropolitan areas, growth has generally been weaker in the rural counties of the VY impact region covering VT, NH and MA. However, in 2015-2016 as the VY payroll decline took effect, there was a dramatic downturn visible in Windham County. This change is remarkably divergent from adjacent counties, and from the state and the nation. While wage growth has generally reverted to pre-VY closure trends, there is no indication yet of a complete recovery. Full economic recovery would require making up for lost ground, and complete resilience would require achieving and sustaining a growth rate that once again outpaces our neighbors and outpaces inflation.

### Gross Regional Product (GRP) & Utility Sector Contribution to GRP

Gross Regional Product (GRP) is a basic measure of a regional economy’s size. It is the market value of all goods and services produced. Sectors that import dollars, such as tourism and healthcare, and that export products, such as energy and manufacturing, have played a large role in this region’s growth. Windham County’s GRP from 2015 to 2016 declined by almost the precise amount of change in the utility sector - \$238M vs \$249M respectively. The utilities share of the Windham County economy dropped in that interval from 16.1% to 6.5%.

Windham County	2014	2015	2016	2017	2018
GRP	\$2,280,232,981	\$2,434,133,515	\$2,195,743,450	\$2,209,843,770	\$2,235,971,474
Change	\$18,864,512	\$153,900,534	(\$238,390,065)	\$14,100,320	\$26,127,704
Utilities Contribution	\$333,539,594	\$391,933,278	\$142,446,083	\$85,355,174	\$83,743,736
Utilities Change	\$3,138,705	\$58,393,684	(\$249,487,195)	(\$57,090,909)	(\$1,611,438)
Utilities Share	14.6%	16.1%	6.5%	3.9%	3.7%

EMSI 2019

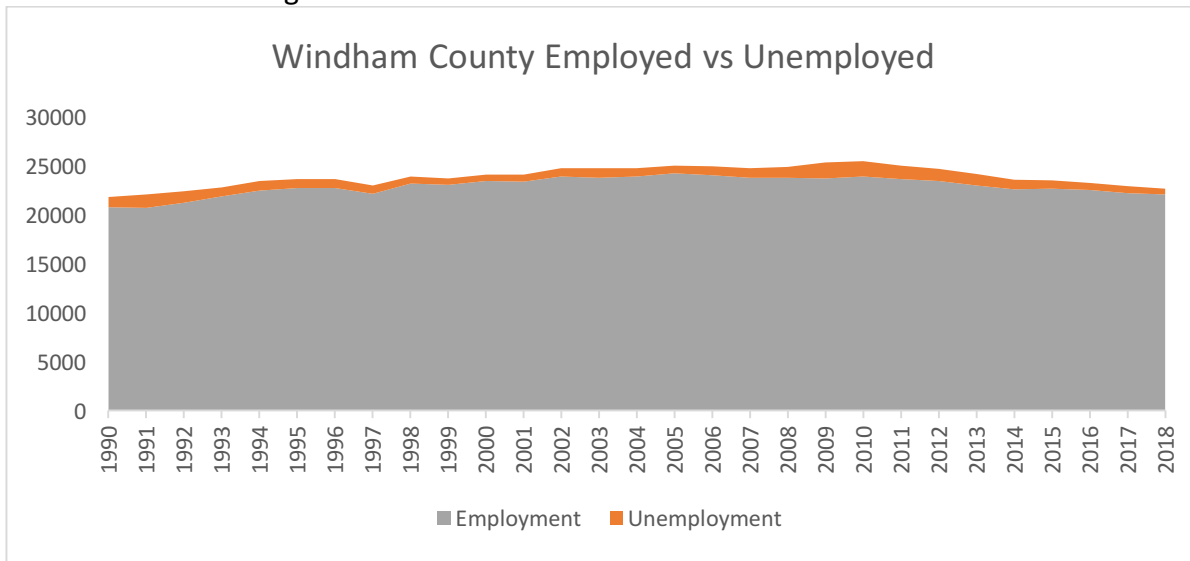


These changes are in keeping with the general predictions provided by the University of Massachusetts Donahue Institute study commissioned by the regional agencies of Windham, Cheshire, and Franklin Counties (funded by the Franklin Regional Council of Governments (FRCOG)). The utility sector has continued to decline, but Windham GRP returned to 1.2% growth in 2018. This reflects work by BDCC and the state to investment in business and job growth. The Windham County Economic Development Program, funded through the VY Closure agreement with Entergy, has invested over \$9 million in projects on track to produce over 800 new jobs. Many are in manufacturing which is a private sector leader in wage growth. In 2019, 20% of Vermont’s fastest growing firms were in Windham County, and all were manufacturers.

## Labor Force and Unemployment

The VY closure ultimately displaced over 600 workers. However, based on precedent at other plants and on local anecdotal evidence pertaining to relocation of VY workers, we did not anticipate a major unemployment impact. However, as with all major layoffs, rapid response action from the Department of Labor directed support to those who were affected. An important detail with regard to nuclear power plant layoffs is that public workforce development funds are typically directed to upskilling to higher wage jobs. This assumes there are higher wage jobs to be had locally. Since displaced VY workers were earning at a level beyond most local wages, resources to help redeploy that worker may have been limited in efficacy. Local uptake of workers with transferrable skills was also high because local unemployment has been very low (2-3%) for years. This comes back to the underlying conditions: The VY closure took place at a point in history when this region is experiencing a drop in labor force driven by population decline and aging. Windham County is experiencing a labor shortage, at the same time as it needs to add jobs. This is an increasingly common rural regional economic development paradox.

While some displaced workers remained in the area and in the labor force seeking new employment, many workers redeployed, retired, or relocated (either as Entergy employees or to other plants nationwide). Therefore, the VY closure, while creating some layoffs and contribution to unemployment numbers, was typical of plant closures in this era, spurring outmigration of working-age, highly skilled workers who relocated to find employment at nuclear facilities in other parts of the country. The nuclear workforce is aging and facing growing retirements. Workers are in high demand.



BLS Local Area Unemployment Statistics

The result of personnel relocations goes beyond the loss of just VY employees. It includes their households which often included an adult partner, many of whom were also in the workforce. VY closure drained talent and people from a region already suffering from declining labor force and population. The region has also suffered losses more difficult to measure with the loss of affluent households. Losing households with high levels of disposable income impacted local businesses who rely on a local customer base for high-end consumer goods and services. VY households included people who gave time to coach, help schools with technology issues, volunteered, and gave to local charitable causes. With widening income inequality and an aging population, this region will struggle to replace the consumer base, social capital and philanthropic value that has been lost.

