

The Pilgrim Nuclear Power Station Study

Summary of Findings presented to the
Plymouth Board of Selectmen

Dr. John R. Mullin, FAICP
Professor and Project Director
University of Massachusetts

Jennifer Stromsten
Project Consultant
Institute for Nuclear Host Communities

May 19, 2015

Project Team



- Department of Planning and Development
 - Lee Hartmann, AICP, Director
- Office of the Town Manager
 - Melissa Arrighi, Town Manager



- Old Colony Planning Council
 - Pat Ciaramella, Executive Director



- Economic Development Practicum
 - John Mullin, Professor
 - Graduate Student Team
- Center for Economic Development
 - Henry Renski, Director
 - Jonathan Cooper, Research Assistant

Project Consultant

- Institute for Nuclear Host Communities
 - Jennifer Stromsten, Program Director

Purpose

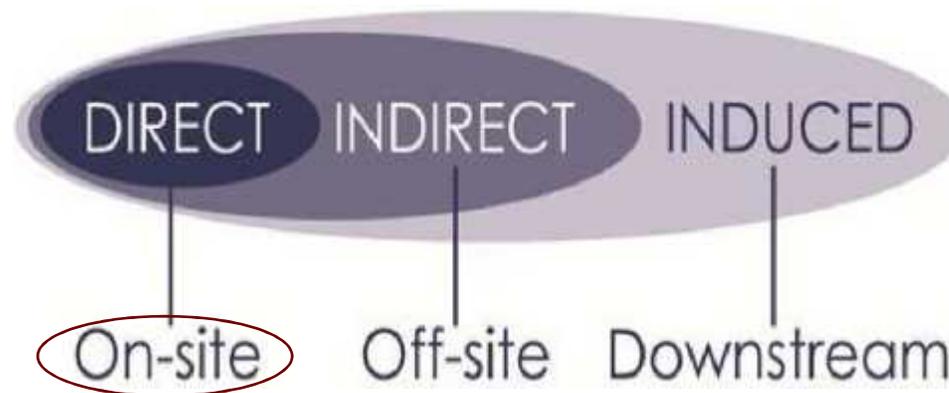
- Project: to help local and regional officials better understand Pilgrim Station's current and future socio-economic impacts

- Tonight: to provide a summary of report contents
 - Major Findings
 - Impacts of Pilgrim Station
 - Issues with Nuclear Plant Closure
 - Recommendations

MAJOR FINDINGS

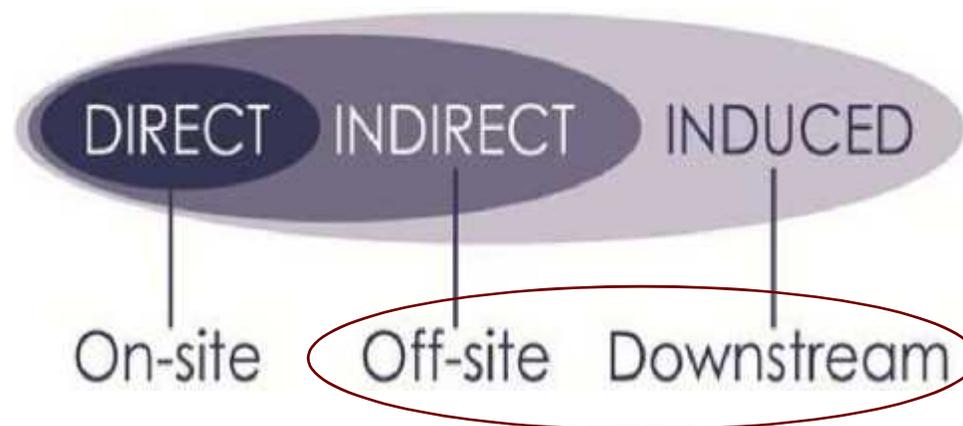
Major Findings: Plymouth & Barnstable Counties

- Annual plant operation provides region with income + revenue of approximately \$150,000,000
 - Sustains approximately 600 jobs with high wages
 - Workforce clustered near plant
 - Positive and stabilizing effect on town and region with lower income totals and higher levels of seasonal jobs



Major Findings: Plymouth & Barnstable Counties

- Plant employees and vendors create substantial “second wave” economic impacts of \$105,000,000
 - Supporting an additional 600 jobs in the region
 - Significant spending in non-nuclear industries
 - High levels of home ownership and tax revenue



Major Findings: Plymouth & Barnstable Counties

- If plant operation produces...
 - Approximately 1,200 jobs
 - Approximately \$14 million in municipal taxes
 - Approximately \$107 million in wages and benefits
 - Approximately \$148 million in non-payroll spending

Major Findings: Plymouth & Barnstable Counties

- If plant operation produces...
 - Approximately 1,200 jobs
 - Approximately \$14 million in municipal taxes
 - Approximately \$107 million in wages and benefits
 - Approximately \$148 million in non-payroll spending

- Then plant closure means...
 - Workforce losses beyond the power plant
 - Reductions to municipal finances
 - Household spending impacts in non-nuclear homes
 - Revenue impacts in several industries in the economy

OPERATIONAL IMPACTS OF PILGRIM STATION

Hundreds of High-Paying Jobs

- Approximately 600 full-time employees

Table 4.2: 2015 Job and Wage Shares of Pilgrim Station, by Region

Jobs	Share	Pilgrim Station	Share	Wages
23,536	2.49%	Plymouth Town	5.29%	\$1,038,922,395
129,788	0.45%	Old Colony	0.95%	\$5,803,798,710
175,957	0.33%	Plymouth County	0.69%	\$7,978,935,618

Hundreds of High-Paying Jobs

- Approximately 600 full-time employees
- Annual payroll of \$55 million

Table 4.2: 2015 Job and Wage Shares of Pilgrim Station, by Region

Jobs	Share	Pilgrim Station	Share	Wages
23,536	2.49%	Plymouth Town	5.29%	\$1,038,922,395
129,788	0.45%	Old Colony	0.95%	\$5,803,798,710
175,957	0.33%	Plymouth County	0.69%	\$7,978,935,618

Hundreds of High-Paying Jobs

- Approximately 600 full-time employees
- Annual payroll of \$55 million
- Average wage doubles local and regional totals

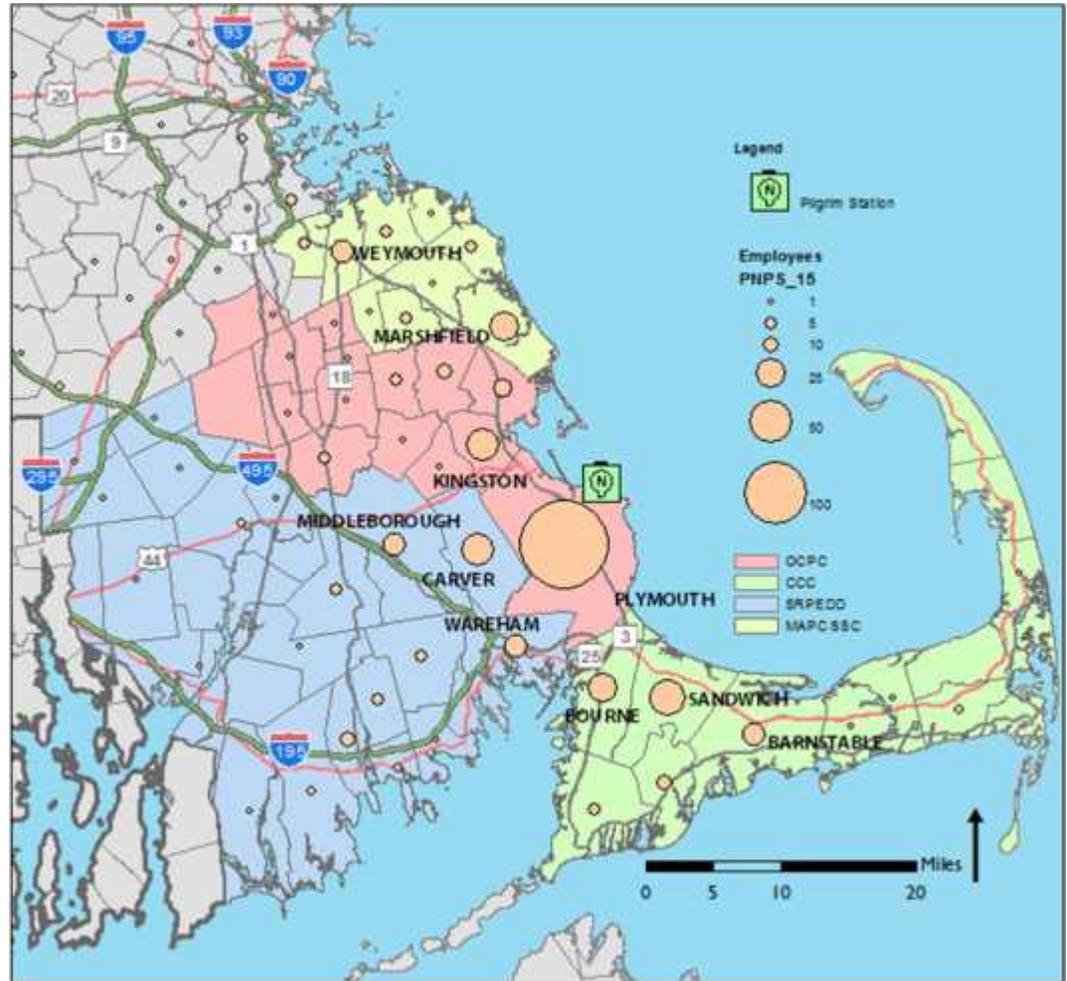
Table 4.2: 2015 Job and Wage Shares of Pilgrim Station, by Region

Jobs	Share	Pilgrim Station	Share	Wages
23,536	2.49%	Plymouth Town	5.29%	\$1,038,922,395
129,788	0.45%	Old Colony	0.95%	\$5,803,798,710
175,957	0.33%	Plymouth County	0.69%	\$7,978,935,618



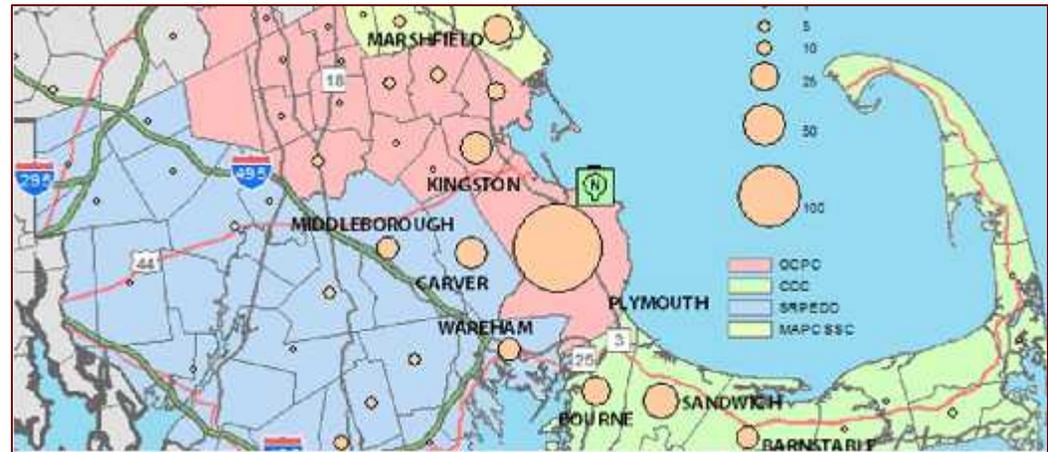
A Close-to-Home Workforce

- Plymouth is home to 190 employees
 - Over 30 percent



A Close-to-Home Workforce

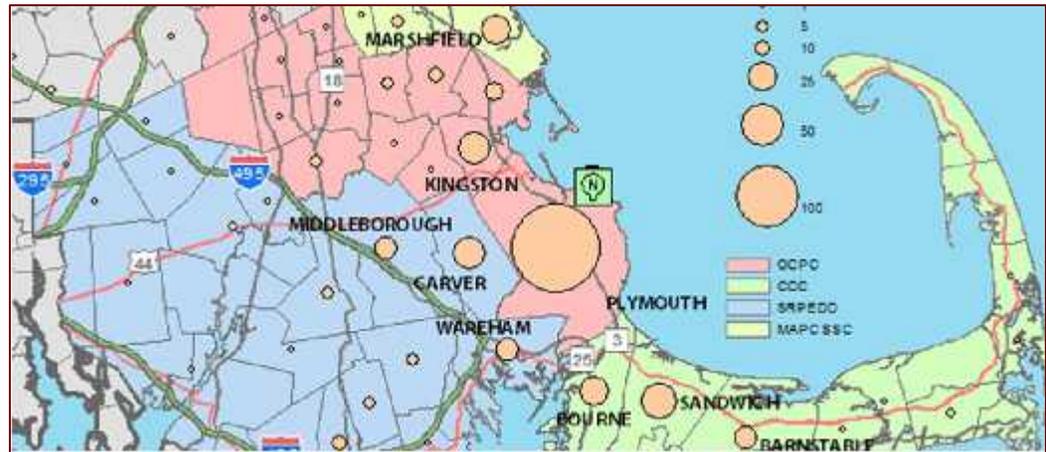
- Plymouth is home to 190 employees
 - Over 30 percent
- Wages in Plymouth total \$17.8 million
 - \$25m in OCPC



Old Colony		SRPEDD		Cape Cod	
Plymouth	17.8 million	Carver	3.1 million	Sandwich	3.8 million
Kingston	3 million	Wareham	1.4 million	Bourne	2.3 million
Duxbury	1.2 million	Middleboro	1.4 million	Barnstable	1.8 million
Other	3 million	Other	4.8 million	Other	2.3 million
Totals	\$25 million		\$10.7 million		\$10.2 million
In Top 3	88 percent		55 percent		77 percent

A Close-to-Home Workforce

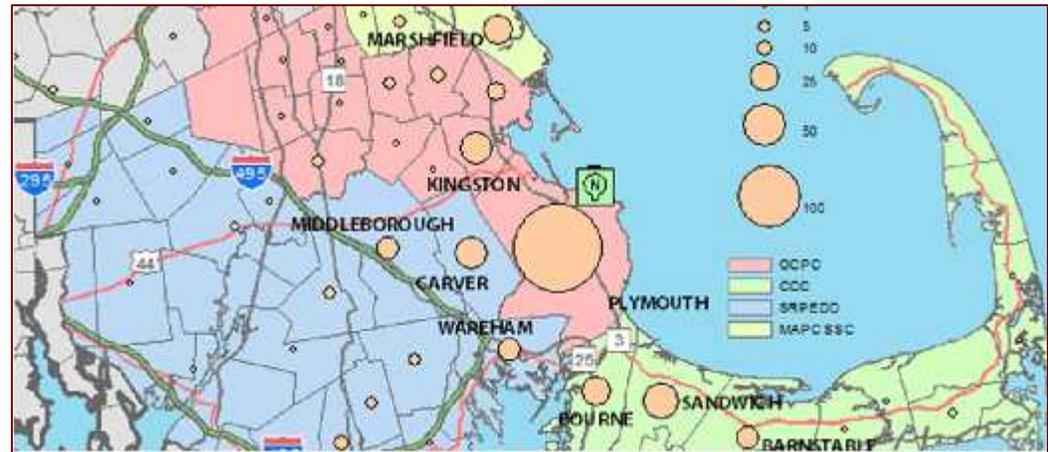
- Plymouth is home to 190 employees
 - Over 30 percent
- Wages in Plymouth total \$17.8 million
 - \$25m in OCPC
- Clustering keeps local spending high
 - Banks, groceries



Old Colony		SRPEDD		Cape Cod	
Plymouth	17.8 million	Carver	3.1 million	Sandwich	3.8 million
Kingston	3 million	Wareham	1.4 million	Bourne	2.3 million
Duxbury	1.2 million	Middleboro	1.4 million	Barnstable	1.8 million
Other	3 million	Other	4.8 million	Other	2.3 million
Totals	\$25 million		\$10.7 million		\$10.2 million
In Top 3	88 percent		55 percent		77 percent

A Close-to-Home Workforce

- Plymouth is home to 190 employees
 - Over 30 percent
- Wages in Plymouth total \$17.8 million
 - \$25m in OCPC
- Clustering keeps local spending high
 - Banks, groceries
- Impacts housing markets
 - Provides tax revenues



Estimated Property Tax Payments by Pilgrim Station Employees, 2015

Town	Workers	Median	Real Estate	Rate	Payment
Plymouth	190	\$307,733	\$58.47 million	15.54	\$908,580
Sandwich	40	\$349,500	\$13.98 million	14.82	\$207,200
Kingston	32	\$329,512	\$10.54 million	16.94	\$178,624
Carver	33	\$259,100	\$8.55 million	17.01	\$145,431
Duxbury	13	\$609,200	\$7.92 million	15.60	\$123,552
Marshfield	24	\$386,700	\$9.28 million	13.29	\$123,336
Bourne	25	\$388,779	\$9.72 million	10.07	\$97,875
Barnstable	19	\$457,349	\$8.69 million	9.30	\$80,807
Middleboro	15	\$261,500	\$3.92 million	15.78	\$61,890

Many Industries Supported

Pilgrim Station

- Technical Services
 - Engineering/Consulting
- Manufacturing
 - Electronics/Equipment
- Specialty Construction
 - Utility Systems/Electric
- Industrial Equipment
 - Machinery/Metals
- Support Services
 - Landscaping/Security

Many Industries Supported

Pilgrim Station

- Technical Services
 - Engineering/Consulting
- Manufacturing
 - Electronics/Equipment
- Specialty Construction
 - Utility Systems/Electric
- Industrial Equipment
 - Machinery/Metals
- Support Services
 - Landscaping/Security

Plant Workforce

- Health Care
 - Physicians/Hospitals
- Financial Services
 - Banks/Lenders
- Real Estate
 - Brokers/Developers
- Food Services
 - Grocers/Restaurants

ISSUES WITH NUCLEAR POWER PLANT CLOSURE

Nuclear Plant Closure Characteristics

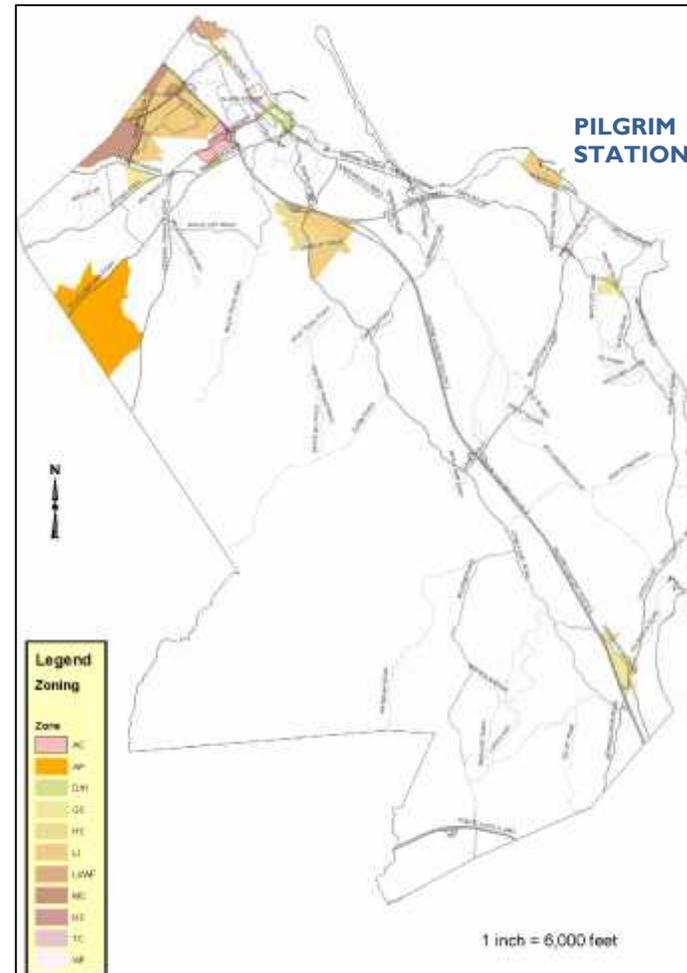
- How is nuclear plant closure different from
 - Other power plants?
 - Manufacturing plants?
 - Other industry plants?

Nuclear Plant Closure Characteristics

- Location
 - Workforce
 - Cleanup
 - Assistance
 - Spent Fuel
- How is nuclear plant closure different from
 - Other power plants?
 - Manufacturing plants?
 - Other industry plants?
 - Five Factors affecting
 - Redevelopment
 - Public support
 - Outside interest

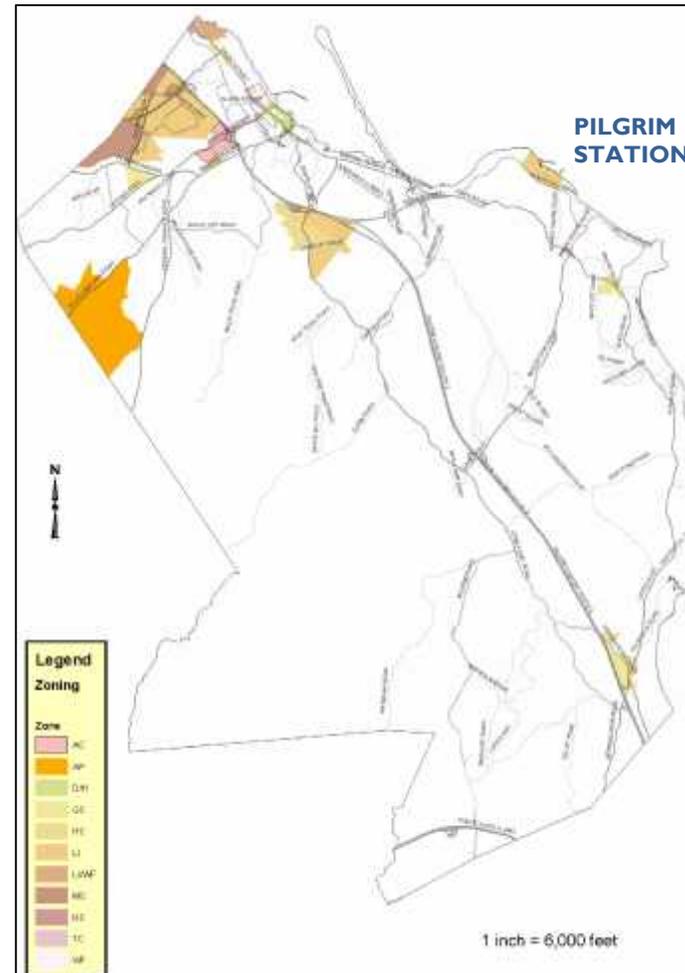
Nuclear Plant Closure Characteristics

- Location
 - Out of the way



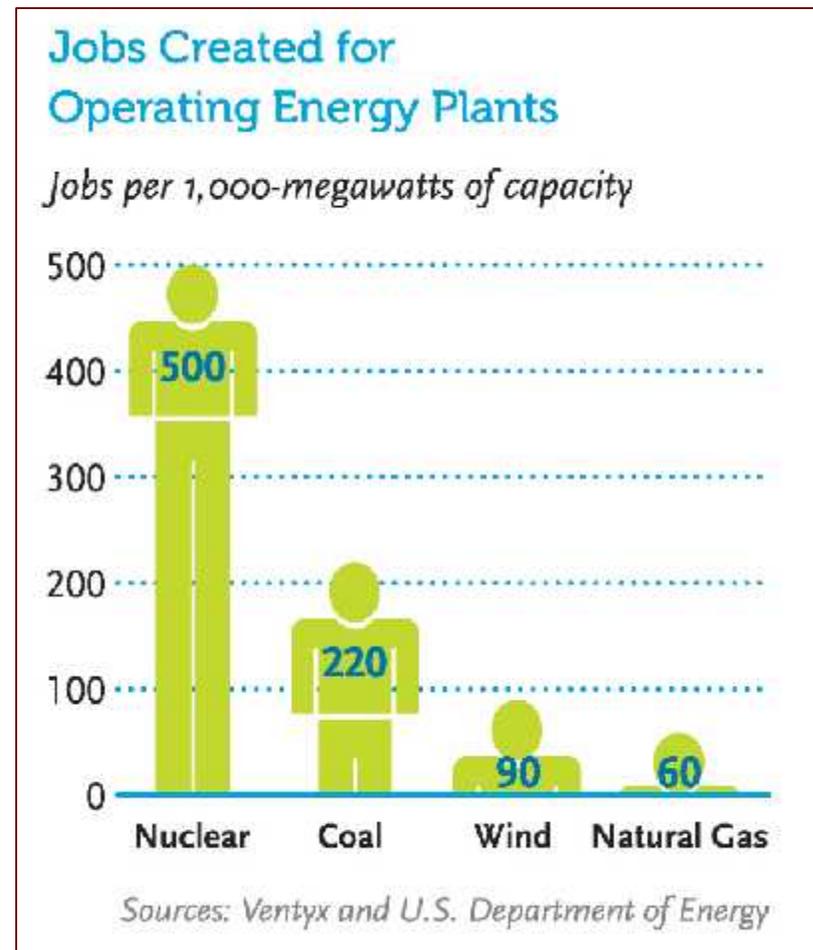
Nuclear Plant Closure Characteristics

- Location
 - Out of the way
 - Pilgrim 3 miles from nearest on-ramp
 - Limited access by road or rail



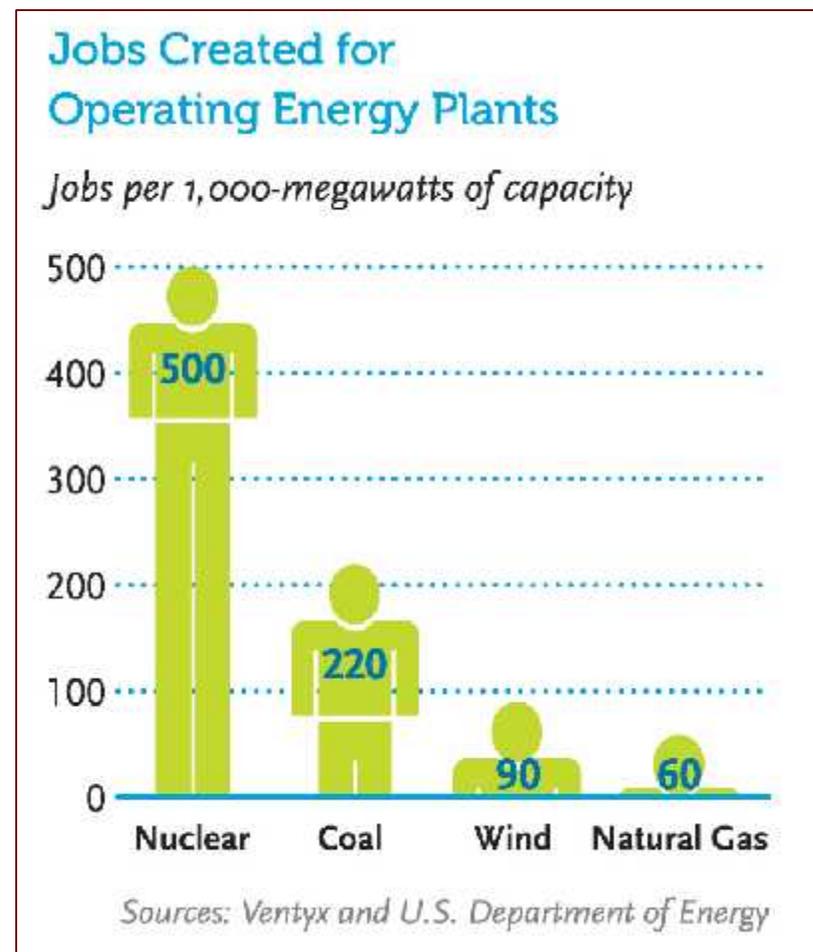
Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized



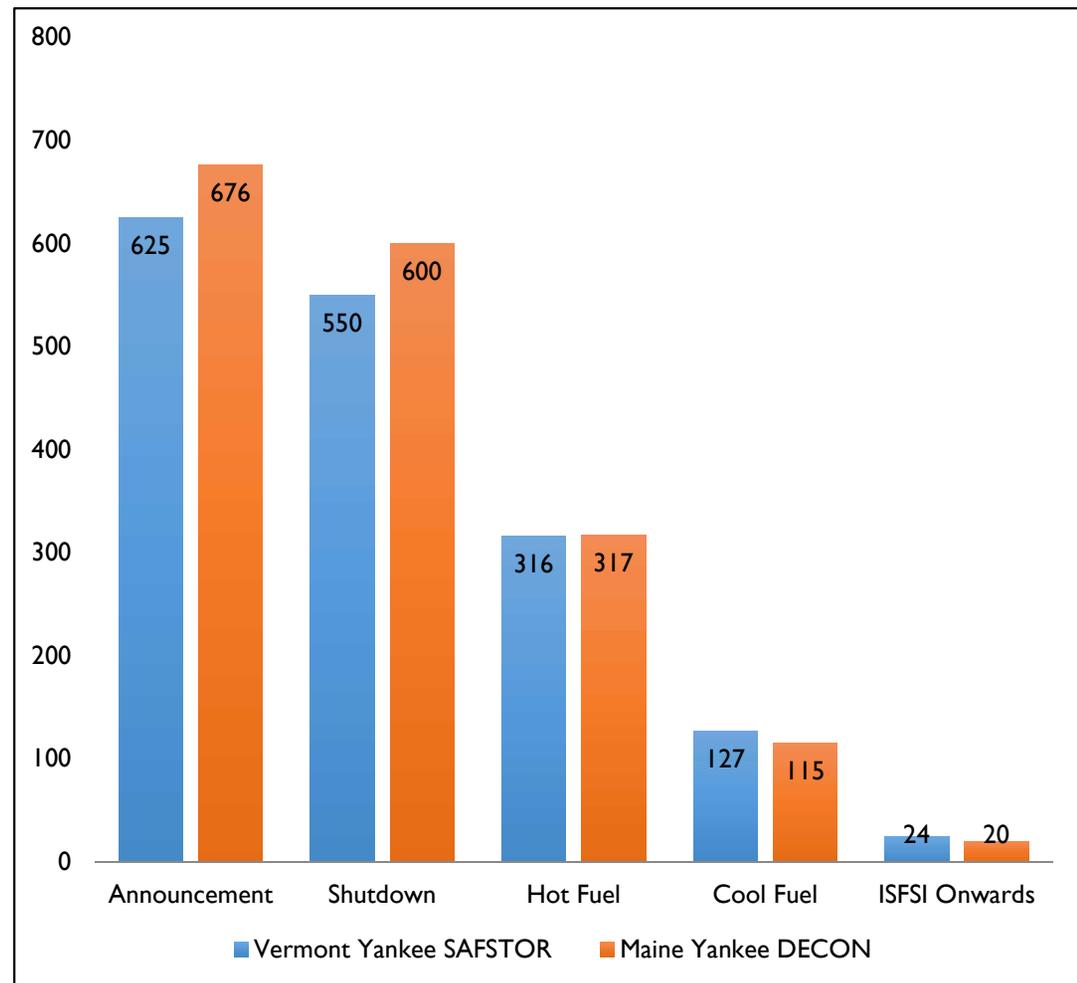
Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized
 - Large number
 - Many likely to relocate



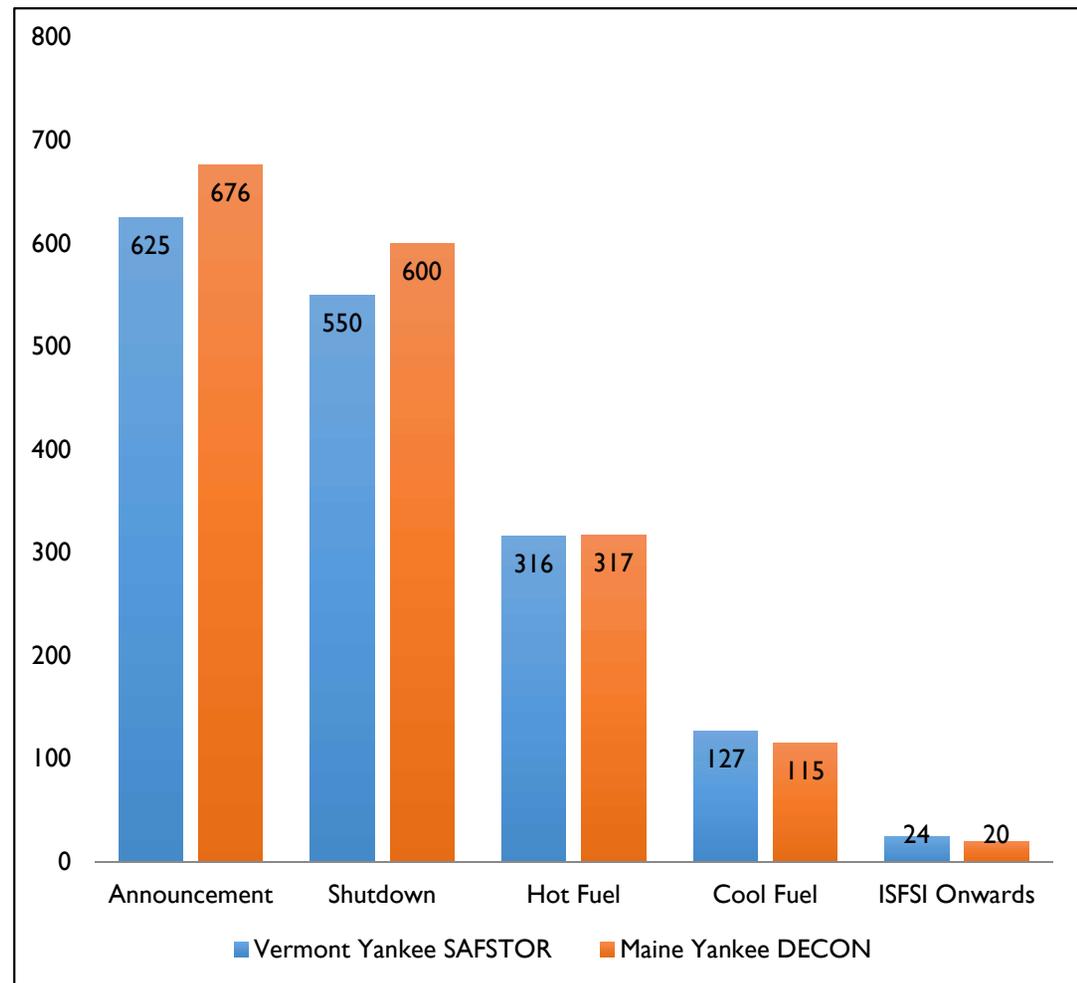
Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables



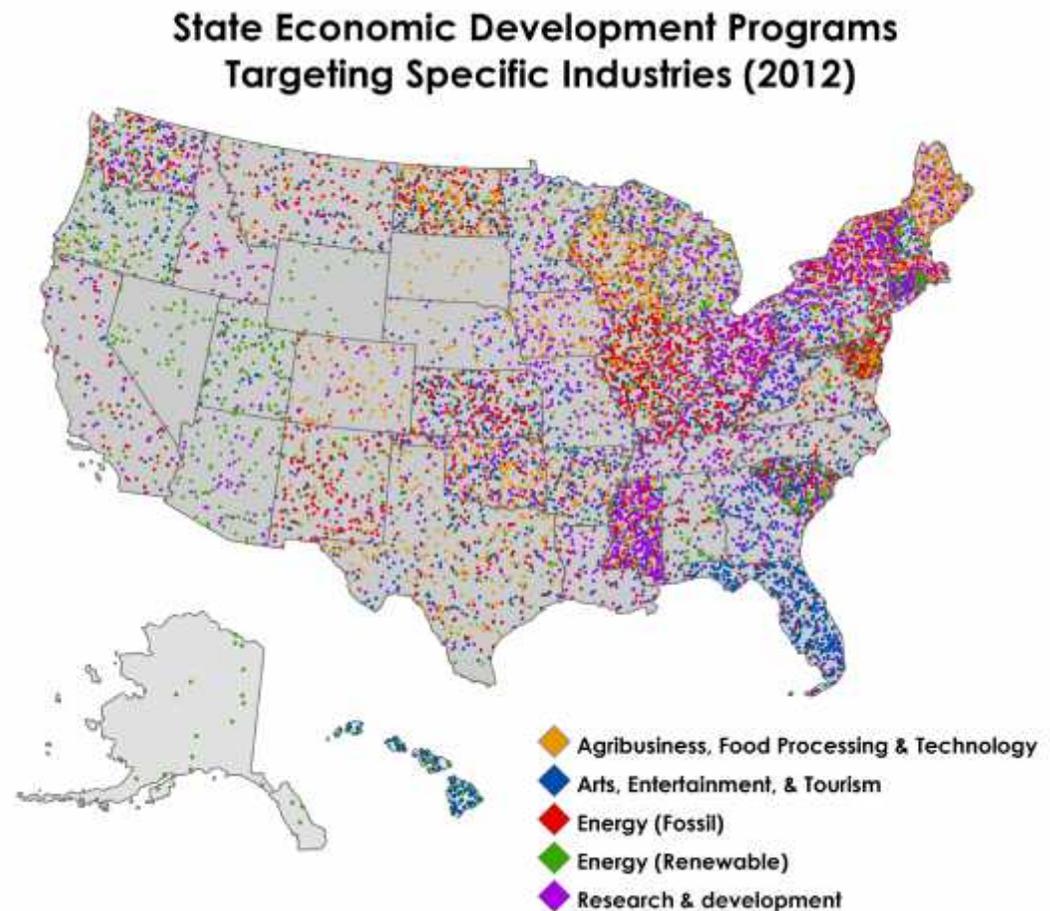
Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables
 - Major staffing reductions within 3 years
 - State and federal standards differ



Nuclear Plant Closure Characteristics

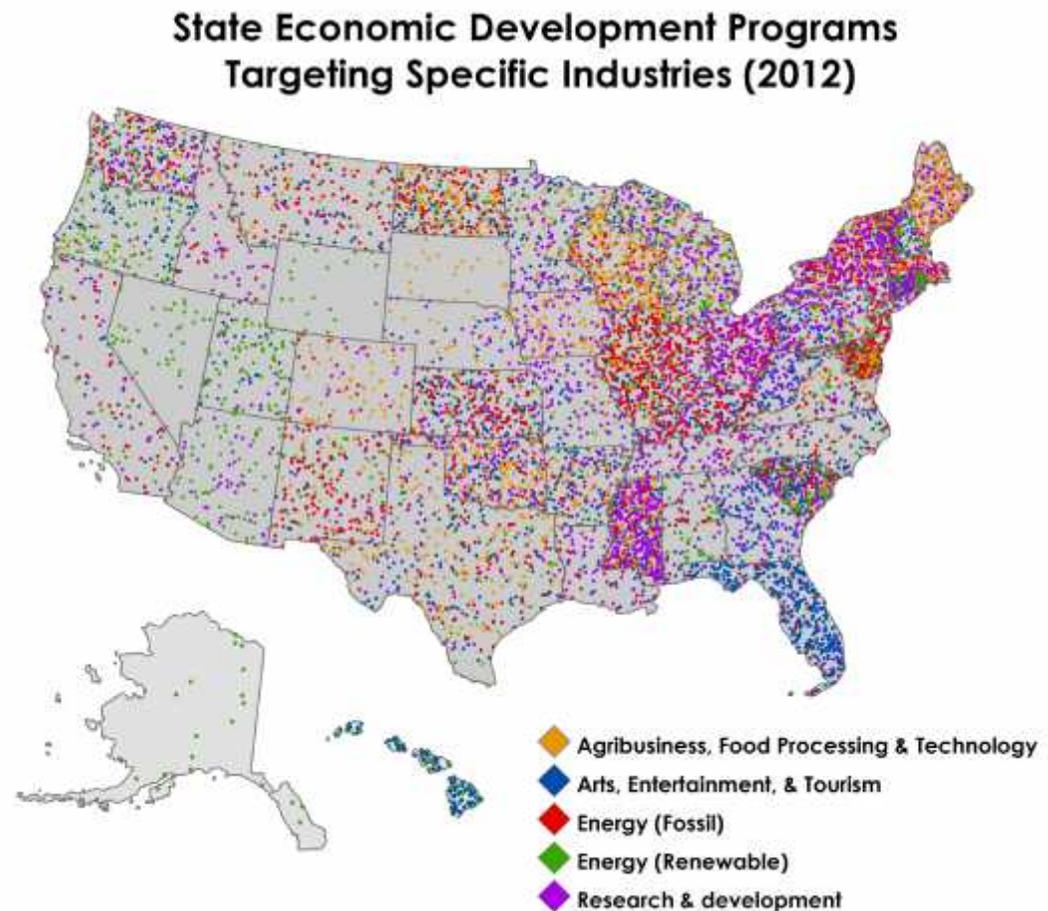
- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables
- Assistance
 - No direct allies



Source: Various state economic development information sources, 2012

Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables
- Assistance
 - No direct allies
 - No established methods or amounts



Source: Various state economic development information sources, 2012

Nuclear Plant Closure Characteristics

- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables
- Assistance
 - No direct allies
- Spent Fuel
 - Policy failure



Nuclear Plant Closure Characteristics

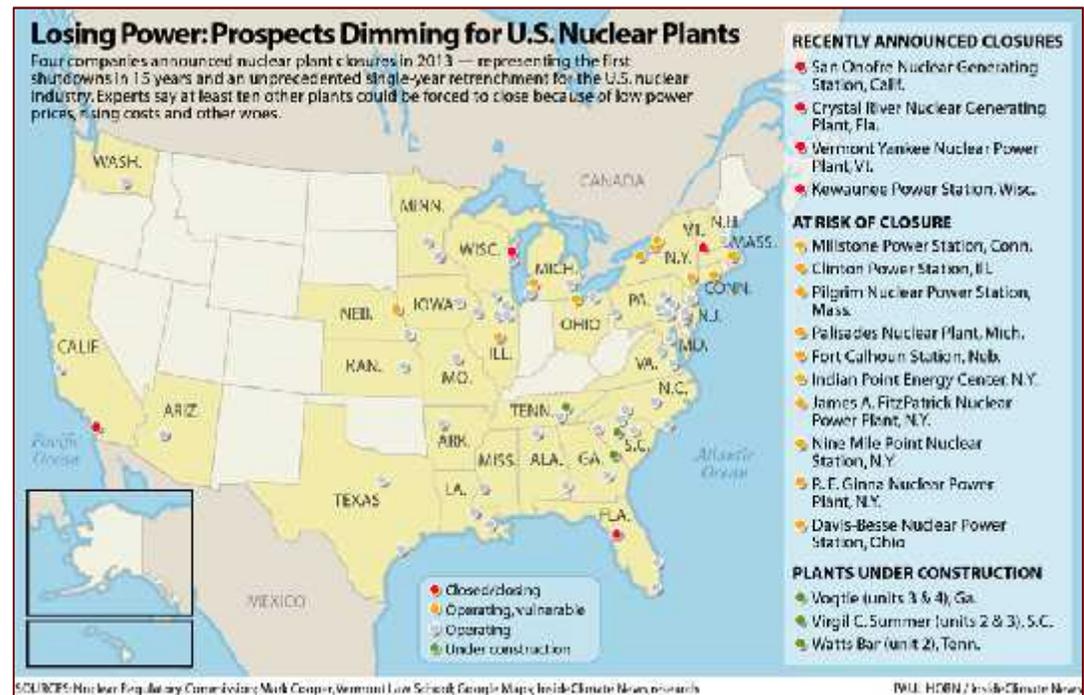
- Location
 - Out of the way
- Workforce
 - Highly specialized
- Cleanup
 - Many variables
- Assistance
 - No direct allies
- Spent Fuel
 - Policy failure
 - Was never part of the deal
 - Now a matter for the courts



Nuclear Plant Closure Context

- Mandatory Retirement
 - Less time for older plants to recoup costs
 - No plant has ever reached 60 years

- Challenges from other energy sectors
 - Reduced profits
 - Industry excluded from emissions reductions



RECOMMENDATIONS

Three Categories to “Build”

- KNOWLEDGE
- SUPPORT
- MOMENTUM

Three Categories to “Build”

- KNOWLEDGE
 - Public focus at closure is on safety and site reuse
 - Time to learn about impacts is NOW
- SUPPORT
- MOMENTUM

Three Categories to “Build”

- KNOWLEDGE
 - Public focus at closure is on safety and site reuse
 - Time to learn about impacts is NOW
- SUPPORT
 - Current policy focus is not on local impacts
 - New allies emerging as other plant closures continue
- MOMENTUM

Three Categories to “Build”

- KNOWLEDGE
 - Public focus at closure is on safety and site reuse
 - Time to learn about impacts is NOW
- SUPPORT
 - Current policy focus is not on local impacts
 - New allies emerging as other plant closures continue
- MOMENTUM
 - Closure process still unclear to many people
 - Starting now creates the opportunity to shape the conversation

Building Knowledge

- Develop detailed assessments of socio-economic benefits
 - High Priority, Near Term

- Stay informed of regulatory and legal developments
 - Medium Priority, Medium Term

- Match existing best practices for plant closure to Pilgrim Station specifics
 - Lower Priority, Medium Term

Building Support

- Create and maintain a non-adversarial process
 - HIGHEST Priority, Near Term

- Identify key stakeholders to determine roles
 - High Priority, Near Term

- Develop relationships with relevant state and federal agencies
 - Medium Priority, Long Term

Building Momentum

- Work with legislators to expand energy transition planning
 - Higher Priority, Near Term

- Focus development planning off-site
 - Medium Priority, Near Term

- Promote stability in plant-based revenue
 - Medium Priority, Long Term

Thank You

Any questions?

