CONNECTICUT GREEN BANK

# Evaluation Framework: Economic Development – Jobs

**Economic Development Overview: One of the indicators that the Connecticut Green Bank will be tracking in its programs and overall portfolio is the extent to which investments in clean energy create value from a societal perspective as it relates to the economic development of the state[1].** For the Green Bank programs this will be measured as the relationship between investments and associated direct and indirect jobs created. In 2009, and updated in 2010, Navigant Consulting prepared a Connecticut Renewable Energy and Energy Efficiency Economy Baseline Study[2], which included a focus on the investments in those energy sectors and the resulting job creation. This study was updated in 2016, 2018, and 2021 and is the basis for how the Green Bank measures its impact on job creation. Since that report was prepared, the availability of new clean energy technologies that have emerged (e.g., DER resources, EVs, electric charging stations, etc.), and a variety of related economic factors (e.g., costs of labor, cost of resource acquisition, etc.) have changed. The Connecticut Green Bank contracted Navigant Consulting, in coordination with the Connecticut Department of Economic and Community Development (DECD) and with assistance from Eversource Energy and United Illuminating, to refresh the investment-jobs portion of its earlier study by providing an updated calculator tool to estimate the economic development benefits from clean energy investments in Connecticut, as reflected in job-years created.

The updated study* focused on jobs associated with the investment area of the Connecticut Green Bank: renewable energy (RE) and energy efficiency (EE) project development and deployment, and product development and manufacturing. The final value output in the jobs calculator is *job-years created per $1 million invested in clean energy projects in Connecticut*.

The Connecticut Green Bank, through its Evaluation Framework, will use the findings of this study to estimate, analyze, and report on the economic development benefits of jobs from the investment activity in clean energy deployment in Connecticut.

## Results of RE/EE job-years created to investment analysis

Below is a summary of the results of the analysis of direct, indirect, and induced job-years created by each million dollar investment in clean energy deployment in Connecticut:

| | | |
|---|---|---|
| **6 Fuel Cell Job-Years** | **5 Solar PV Job-Years** | **4 Meter Installation Job-Years** |
| **7 EV Charging Station Job-Years** | **4 Storage Job-Years** | **8 Residential EE Job-Years** |
| **6 Non-Residential EE Job-Years** | **13 Anerobic Digestion Job-Years** | **6 CHP Job-Years** |
| **10 Wind Job-Years** | **3 Hydro Job Years** | |

## Methodology

**1 Calculation of total jobs at top companies:**
Interviewed top companies, 54 total (60 researched)

- Asked each company for current total number of RE/EE jobs in relevant job classifications and sections of the RE/EE value chain

**2 Extrapolation to represent the total industry of CT:**
Determined market share for companies in Connecticut RE/EE industry

- Calculated for non-interviewed companies
- If interviewed companies had **X** jobs, representing **Y%** of the market share, then all jobs = **X / Y%**

**3 Estimated jobs created per $1 Million invested using jobs calculator**

This analysis mainly considers direct jobs[3] in private companies that employ people who are based in Connecticut. A multiplier for calculating indirect jobs[4] and induced jobs[5] from the number of direct jobs was provided by DECD for the study.

## About the Connecticut Green Bank

Our mission is to confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities. Established in 2011 as a quasi-public agency, the Green Bank uses limited public dollars to attract private capital investment and offers green solutions that help people, businesses and all of Connecticut thrive. Guiding this mission is our vision for "a planet protected by the love of humanity." For more information about the Connecticut Green Bank, please visit www.ctgreenbank.com

## About the Department of Economic and Community Development

The Department of Economic and Community Development is the state's lead agency responsible for strengthening Connecticut's competitive position in the rapidly changing knowledge-based global economy. The department administers the Manufacturing Innovation Fund that was created to support and strengthen Connecticut's manufacturing sector. For more information about the Department of Economic and Community Development, please visit www.decd.org

**In the below example, the Connecticut Green Bank would report the economic development results in its Comprehensive Annual Financial Report, in the following manner: "In FY24, through the Connecticut Green Bank's support, over 962 direct and 1,169 indirect and induced job-years were created in the state. Since FY12, there have been a total of 29,248 combined direct and indirect jobs."**

## Example of Jobs Calculator: Residential Solar

| **Occupation** *Solar PV Installation – Residential* | **Capital Invested** | **Company Overhead (SG&A) and Margin** | **Project Cost after Overhead (SG&A) and Margin** | **Labor (% of Project Cost)** | **Non-labor Costs (% of Project Costs)** |
|---|---|---|---|---|---|
| | **A** | **B** | **C=A*(1-B)** | **D** | **E=100%-D** |
| | $1,000,000 | 20% | $800,000 | 20% | 72% |
| **Weighted Average Wage* ($/Yr)** | **Fully Burdened Employee Cost ($/Yr)** | **Direct Job-years Created per Million Dollars Invested** | **Indirect and Induced Job Multiplier** | **Indirect and Induced Job Years Created per Million Dollars** | **Total Job Years Created from Capital Invested** |
| **F** | **G=F*1.3** | **H=C*(D/G)** | **I** | **J=H*I** | **K=H+J** |
| $64,283 | $83,569 | 2.7 | 1.2 | 3.3 | 6.0 |

[1] See Section 7 of Connecticut Green Bank's Evaluation Framework: Assessing, Monitoring, and Reporting of Program Impacts and Process (July 2016)
[2] Connecticut Renewable Energy and Energy Efficiency Economy Baseline study, Navigant Consulting, Inc. [Completed in March 2009 and subsequently updated in 2010]
[3] These are existing jobs in the specified Connecticut industries.
[4] Represents the response as supplying industries increase output in order to accommodate the initial change in final demand.
[5] Generated by the spending of households who benefit from the additional wages and business income they earn through direct and indirect activity.

**For more information, please visit www.ctgreenbank.com/strategy-impact/evaluations**