Filling The Workforce Vacuum:
Achieving NYC’s 80 X 50 Goals by Developing a Skilled Workforce
Energy Efficiency is our Specialty, Affordable Housing is our Priority

– The Association for Energy Affordability, Inc. is dedicated to achieving energy efficiency in new and existing buildings in order to foster and maintain affordable and healthy housing and communities, especially those of low-income.

– With locations in NY, CA, and IL AEA representatives engage in a broad range of educational, technical and construction management activities and services to promote this mission and develop the industry that advances and sustains it.

• Energy Audits and Green Building Design for New Construction and Existing Buildings
• Passive House Consultants and Contractors
• Energy Efficiency Program Design and Implementation
• Provider of Weatherization Assistance Program Services
• National Weatherization Training Center
• BPI Test Center
In September of 2014, New York City committed itself to reducing greenhouse gas emissions by at least 80% by 2050.

Expected Temperature Increases in NYC
Baseline (1971 - 2000) 54°F

- 2020s: 1.5° to 2.8°
- 2050s: 3.1° to 6.6°
- 2080s: 3.8° to 10.3°
- 2100: 4.2° to 12.1°
NYC’s Roadmap to 80X50

• To support this goal NYC produced a comprehensive report that assessed what will be necessary to achieve this level of GHG reduction.

• NYC must accelerate efforts to improve each sector – buildings, energy supply, transportation, and waste.
  – Make buildings and vehicles significantly more efficient, replace many fossil fuel-based heating and domestic hot water systems, and transition to a renewables-based electric grid.
NYC’s Roadmap to 80X50

80X50 Target GHG Emissions Reductions

- 59.2
- 40.6
- 47.4 MtCO₂-e Reduction needed
- 15.8
- 11.8

2014 New York City Energy Consumption and GHG Emissions

- Source Energy:
  - Natural Gas: 633 trillion BTU
  - Nuclear: 168 trillion BTU
  - Renewables: 2.62 trillion BTU
  - Coal: 0.16 trillion BTU
  - Petroleum: 280 trillion BTU

- GHG Emissions:
  - Residential Buildings: 16.9 MtCO₂-e
  - Commercial Buildings: 10.3 MtCO₂-e
  - Industrial & Institutional Buildings: 6.7 MtCO₂-e
  - Public Transit: 1.1 MtCO₂-e
  - On-Road Transportation: 13.9 MtCO₂-e
  - Landfill, Wastewater Treatment, etc.: 1.9 MtCO₂-e
  - Fugitive Emissions: 1.9 MtCO₂-e

Million Metric Tons of CO₂ Equivalent
New York City’s Roadmap to 80 x 50 2016
Existing Buildings

Projected Growth in Built Area by Building Use

<table>
<thead>
<tr>
<th>Year</th>
<th>Institutional</th>
<th>Industrial</th>
<th>Commercial</th>
<th>Multifamily</th>
<th>1 to 4 Family</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>510</td>
<td>310</td>
<td>970</td>
<td>1,940</td>
<td>1,390</td>
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<tr>
<td>2050</td>
<td>560</td>
<td>250</td>
<td>1,120</td>
<td>2,210</td>
<td>1,520</td>
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</tbody>
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+460 Million Square Feet

Pathway to Achieve 80 X 50

- Energy Efficiency
- Deep Energy Retrofits
- Electrification

New York City’s Roadmap to 80 x 50 2016
New York City’s goal of being the most sustainable big city in the world, and global leader in the fight against climate change will require a skilled labor force ready to take on this ambitious challenge.
America’s Skilled Trade Gap

AMERICA’S SKILLS GAP
THE GROWING CRISIS FOR SKILLED LABOR

AVERAGE AGE: 56
YEARS UNTIL RETIREMENT: 5-15

10 million
NEW SKILLED WORKERS NEEDED BY 2020

SKILLED WORKER: A worker who has a special skill, knowledge, or ability in technical work. (ie. Factory worker, brick layer, electrician etc.)

600,000
SKILLED JOBS ARE GOING UNFULFILLED

83% OF COMPANIES REPORT A MODERATE TO SERIOUS SHORTAGE OF SKILLED WORKERS

69% EXPECT THE SHORTAGE TO GROW WORSE IN THE NEXT 3-5 YEARS

HELP WANTED

AMONG ALL U.S. EMPLOYERS

52%
ARE HAVING TROUBLE FILLING JOBS.

MOST DIFFICULT JOBS TO FILL

TECHNICIANS
SKILLED TRADES WORKERS
PRODUCTION OPERATORS
LABORERS

Source: SkillsUSA.org
The U.S. Might Not Have Enough Construction Workers to Rebuild Houston After Harvey

Companies can’t find workers to rebuild after Harvey and Irma

Strong demand for construction workers likely to swell further in storms' aftermath

Will Houston find enough workers to rebuild after Harvey?