
energy.gov/eere/slsc/EEopportunities
Outline

Energy Efficiency as a State Energy Strategy:
• Energy savings benefits
• Energy efficiency potential estimates
• Synopses of seven major opportunity areas and related savings potential
• DOE technical assistance available for energy planning and implementation, by sector
• Appendix – assumptions and data sources
Energy Efficiency Offers Numerous Benefits

- Least cost solution
- Improves air quality
- Reduces all types of power-plant related emissions
- Yields policy bang-for-buck
- Increases electric system reliability
- Increases economic development
- Provides energy cost savings, domestic jobs, improved competitiveness
- Helps meet state, local, federal & private sector goals
- Energy resource at ½ cost of new supply
- Lowers overall energy congestion on transmission & distribution systems

Helps meet state, local, federal & private sector goals
Capturing Energy Efficiency Savings is Feasible

- 16 states (1/3) achieving ≥1% annual incremental electricity savings
- 34 states (2/3) achieving ≥0.5%*

Top 10 States

<table>
<thead>
<tr>
<th>State</th>
<th>2015 net incremental savings, MWh</th>
<th>% of 2015 retail sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>RI</td>
<td>222,822</td>
<td>2.91%</td>
</tr>
<tr>
<td>MA</td>
<td>1,472,536</td>
<td>2.74%</td>
</tr>
<tr>
<td>VT</td>
<td>110,642</td>
<td>2.01%</td>
</tr>
<tr>
<td>CA</td>
<td>5,040,603</td>
<td>1.95%</td>
</tr>
<tr>
<td>ME</td>
<td>183,347</td>
<td>1.53%</td>
</tr>
<tr>
<td>HI</td>
<td>144,240</td>
<td>1.52%</td>
</tr>
<tr>
<td>CT</td>
<td>435,740</td>
<td>1.48%</td>
</tr>
<tr>
<td>WA</td>
<td>1,275,447</td>
<td>1.42%</td>
</tr>
<tr>
<td>AZ</td>
<td>918,582</td>
<td>1.19%</td>
</tr>
<tr>
<td>MI</td>
<td>1,177,277</td>
<td>1.16%</td>
</tr>
</tbody>
</table>

Share of U.S. electricity generation by resource in 2015

- Natural gas: 27%
- Coal: 27%
- Energy efficiency: 18%
- Renewable sources: 11%
- Petroleum and other: 1%
- Nuclear power: 16%


* Includes states achieving ≥1% annual incremental electricity savings
Energy Efficiency Potential Studies & Achieved Electricity Savings

• DOE identified ~80 energy efficiency potential studies published between 2007 and 2016 completed for states, utilities, and NGOs.¹ They provide estimates across 44 states.
• The majority (66%) found an average savings rate of 1 to 2.5% from prior year electricity sales in economic or achievable potential.

¹ U.S. Department of Energy, 2016, Energy efficiency potential studies catalog. Note: With a variety of sponsoring organizations and consultants undertaking these efforts and a range of ways in which these studies are used, assumptions, methodologies, and coverage differ.
Total Economic Electricity Savings Potential (2035) by State (million MWh) – Residential, Commercial, Industrial Sectors

• In a first attempt at identifying economic EE potential in a consistent way across all states, EPRI completed a national / regional potential study and disaggregated it to a state level

• Note: Analysis excludes behavioral or program efficiency; limited technology improvement

Total Economic Electricity Savings Potential (2035) as Percent of Projected Adjusted Baseline Sales by State


National savings: 16%
State-level savings: 12% to 21% per state
26 states with more than 15%
State Progress Towards Achieving EE Potential Varies Widely

Electricity Savings that could be Achieved through a Continuation of Current Approaches (2035) as a Percent of Total Economic Electricity Savings Potential by State

22 states on track to achieve 100% of modeled* economic savings

20 states on track to achieve <50%

*higher savings are feasible through program efficiency, behavioral efficiency, innovation.

Well Documented Opportunities Exist to Increase Energy Efficiency through Various Pathways

Ratepayer-Funded Programs

Industrial Efficiency

Combined Heat & Power

Energy Savings Performance Contracting

Building Energy Codes

City-Led Efficiency
Savings Come from EE Activities Across all Building and Sponsor Types

- Industrial, commercial, public, residential bldgs
- Ratepayer-funded (e.g., utility) programs
- Private sector initiatives
- State / local government-run programs

<table>
<thead>
<tr>
<th>Typical Lead</th>
<th>Savings Pathway</th>
<th>Estimate of National Energy Savings Potential*</th>
<th>Type of Savings Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Sector</td>
<td>Ratepayer-Funded Efficiency Programs</td>
<td>741 million MWh in 2035</td>
<td>Economic</td>
</tr>
<tr>
<td>S/L Gov't</td>
<td>Building Energy Codes</td>
<td>12,824 trillion Btu in 2040</td>
<td>Achievable</td>
</tr>
<tr>
<td>Utility</td>
<td>Industrial Efficiency</td>
<td>7,500 trillion Btu in 2030</td>
<td>Economic</td>
</tr>
<tr>
<td>✓ ✓</td>
<td>Combined Heat and Power</td>
<td>148,936 megawatts</td>
<td>Technical</td>
</tr>
<tr>
<td>✓ City-Led Energy Efficiency Efforts</td>
<td>55-110 million MWh in 2030</td>
<td>Ballpark Achievable</td>
<td></td>
</tr>
<tr>
<td>✓ ✓ Energy Savings Performance Contracting</td>
<td>45-90 million MWh in 2030</td>
<td>Ballpark Achievable</td>
<td></td>
</tr>
</tbody>
</table>

S/L Gov’t = state or local government

NOTE: Savings pathways may have overlapping savings, so estimates are NOT additive.

*See appendix for pathway-specific estimation methodologies and reference publications.
Ratepayer-Funded Efficiency as an Energy Savings Approach

### Possible Lead
- Utilities (investor-owned, municipal, rural cooperative)
- Non-utility program administrators

### Energy Savings
- Savings at end of each year, as determined through EM&V, relative to prior year

### Potential Program Components
- New and existing residential buildings (single family, multi-family, low income)
- Small, medium & large commercial buildings
- Industrial facilities

### Activity
<table>
<thead>
<tr>
<th>Energy Savings Approaches</th>
<th>EM&amp;V</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Program administrators generate energy savings from:</td>
<td>Recent resources provide guidance, including:</td>
</tr>
</tbody>
</table>

### State Policy Options
- Could include:
  - Requiring a specified level of EE savings (e.g., EERS)
  - Requiring inclusion of EE as a resource in capacity planning (e.g., Integrated Resource Planning)
  - Regulatory policies to incentivize successful utility delivery of EE
  - Consider options for energy efficiency delivery agent

### Opportunity:
741 million MWh (16%) in national electricity savings 2016-2035
12% to 22% savings as a percent of sales per state 2016-2035
Example: Large Savings Opportunity from Efficiency in Existing Homes

Would also save 4,200 trillion Btu of source energy (24% of consumption)

Economic Electricity Savings Potential by State (2012-2042) from Residential Efficiency (Million MWh)

Total electricity savings: 245 million MWh

State-level electricity savings: 0.2 to 22.2 million MWh per state

This map was produced by the National Renewable Energy Laboratory, supported by the U.S. Department of Energy (February 22, 2017)
Industrial Energy Efficiency as an Energy Savings Approach

Possible Lead
- State Energy Offices (SEOs)
- Utilities / Program Administrators
- Industrial End-Users
- ESCOs

Energy Savings
- Metered kWh or Btu savings after installing measures or making operational and behavioral changes compared to project start

Potential Program Components
- Better Buildings, Better Plants
- Strategic Energy Management (SEM)
- 50001 Ready
- ISO50001 Certification / Superior Energy Performance (SEP)

Activities

Energy Savings Approaches
- SEOs, program administrators, industrial end users, ESCOs generate energy savings from:
  - Energy management
  - Energy management system
  - Training
  - Metering
  - Technical assistance
  - Capital improvements

State Policy Options
- Could include:
  - Energy efficiency resource standard (EERS)
  - Registry of energy savings from IACs, 50001 Ready or ISO50001/SEP certification

EM&V
- Verification protocol developed for regression-based energy performance improvement through 50001 Ready Protocol and Superior Energy Performance EM&V Protocol
- Forthcoming resources:
  - Library of common industrial EE projects/practices and accepted savings calculation methodologies
  - Uniform Methods Project Protocols for Strategic Energy Management

Opportunity:
7,500 Trillion Btu national energy savings
2.2 to 1,560 Trillion Btu per state
Estimated Economic Potential Energy Savings by State (2030) from Industrial EE (Trillion Btu)

Total energy savings: 7,500 trillion Btu

State-level energy savings: 2.2 to 1,560 trillion Btu per state

Energy Savings in Trillion Btu

U.S. DOE, 2016. energy.gov/eere/slsc/EEopportunities
Combined Heat and Power as an Energy Savings Approach

### Possible Lead
- State energy offices
- City energy or sustainability office
- Community-based organizations
- Utilities / program administrators
- Industrial end-users

### Energy Savings
- kWh / MWh generated on site compared to central power plant
- Therms / Btu saved from using waste heat compared to separately fueled heat

### Potential Program Components
- District energy
- Microgrids
- Resiliency plans

### Activities

#### Energy Savings Approaches
- Large energy users, program administrators, or state / local energy offices generate energy savings from:
  - Incentives to support CHP installation in appropriate facilities

#### State Policy Options
- Could include:
  - CHP in state energy resource standard (e.g., EERS, RPS)
  - Updated standby rates
  - CHP in utility resource plans
  - Interconnection standards
  - Embrace CHP Packaged System eCatalog (in development)

### EM&V
- Recent resources provide guidance, including:
  - Combined Heat and Power: Uniform Methods Project
  - Combined Heat and Power: A Clean Energy Solution
  - Guide to the Successful Implementation of State CHP Policies

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**Opportunity:**
148,936 MW national potential
400 to 14,000 MW per state
Estimated On-Site Technical Potential by State from Combined Heat and Power (CHP) (MW)

National potential: 148,936 MW

State-level potential: 400 to 14,000 MW per state

## Building Energy Codes as an Energy Savings Approach

### Possible Lead
- State code administrator
- State energy office
- Utility
- NGO

### Energy Savings
- # new code or beyond code built buildings X reduction in kWh or Btu per building from code in baseline year

### Potential Program Components
- Stretch Code Programs
- ENERGY STAR New Homes
- Zero Energy Ready Homes

### Activities

<table>
<thead>
<tr>
<th>Energy Savings Approaches</th>
<th>EM&amp;V</th>
</tr>
</thead>
<tbody>
<tr>
<td>State energy office, utility, or NGO generate energy savings from:</td>
<td>Recent resources provide guidance, including:</td>
</tr>
<tr>
<td>- Education</td>
<td>- DOE Building Energy Codes Program (BECP)</td>
</tr>
<tr>
<td>- Training</td>
<td>- Achieving Energy Savings and Emission Reductions from Building Energy Codes: A Primer for State Planning</td>
</tr>
<tr>
<td>- Enforcement</td>
<td>- BECP multi-state residential energy code field study</td>
</tr>
</tbody>
</table>

### State Policy Options
- Could include:
  - Legislation to require adoption of latest national model energy code upon update
  - Legislation to require reduction in building energy use by date (e.g., 70% by 2030)

### Opportunity:
12,824 trillion Btu national energy savings in 2040
19 to 2,269 trillion Btu per state
Estimated Achievable Potential Total Energy Savings by State (2010-2040) from Building Energy Codes (Trillion Btu)

Total energy savings: 12,824 trillion Btu

State-level energy savings: 19 to 2,269 trillion Btu per state

PNNL, 2016. www.energycodes.gov/about/results
## City-Led Efficiency as an Energy Savings Approach

### Possible Lead
- City energy or sustainability office
- City general services office
- Municipal utility
- Community-based organizations

### Energy Savings
- Aggregate city-wide (municipal, industrial, commercial, residential) electricity savings compared to starting year consumption

### Potential Program Components
- Building performance policies
- Voluntary building efficiency challenges
- Financing (property assessed clean energy [PACE], performance contracting)
- Municipal building efficiency
- Water/wastewater treatment facilities
- Streetlight upgrades
- Homeowner outreach

### Activities

#### Energy Savings Approaches
City offices, utility, or community-based organizations generate energy savings from:
- Training, outreach, enforcement of building efficiency policies
- Outreach and technical assistance for voluntary programs
- Installing energy upgrades to municipal buildings, water/wastewater treatment facilities, streetlights

#### State Policy Options
Could include:
- Enable cities to implement PACE
- Provide guidance to utilities for streamlining energy data access for building benchmarking
- Create state-led city programming (e.g., MA Green Communities)

#### EM&V
Recent resources provide guidance, including:
- **DOE Benchmarking & Transparency Policy and Program Impact Evaluation Handbook**
- **Assessment of Automated Measurement and Verification (M&V) Methods**
- **Federal Energy Management Program M&V Guidelines Version 4**

### Potential Savings in 2030
55-110 million MWh
# Energy Savings Performance Contracting (ESPC) as an Energy Savings Approach

## Activities

<table>
<thead>
<tr>
<th>Energy Savings Approaches</th>
<th>EM&amp;V</th>
</tr>
</thead>
</table>
| • State energy or general services office, building owners, ESCOs, utilities generate energy savings from:  
  - Direct energy management  
  - Capital improvements  
  - Technical assistance  
  - Training  
  - Metering  
  - Utility incentives | Recent resources provide guidance, including:  
  • [Federal Energy Management Program M&V Guidelines Version 4](#)  
  • [Energy Savings Performance Contracting (ESPC) Toolkit](#) |

## Potential Program Components

- Green Bank or other internal state/city funding  
- Utility  
- State ESPC Support Program

## State Policy Options

• Could include:  
  - Energy efficiency resource standard (EERS)  
  - Executive Order or legislation to create ESPC program w/target savings or investments  
  - State financing for ESPC projects  
  - State admin. rules to support ESPCs

## Potential Leads

- State Energy Office  
- State/Local General Services  
- Local Sustainability Office  
- Commercial building owner  
- Energy savings company (ESCO)

## Energy Savings

- Annual kWh reduced since project installation date

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**Potential Savings in 2030**: 45-90 million MWh
Get More Information on How Others Have Used EE and Find Resources to Support State Energy Planning

energy.gov/eere/slsc/EEopportunities

- **State-Level EE Potential Studies Catalog**
  - Compilation of energy efficiency potential studies published by states, utilities, and non-governmental organizations between 2007 and 2016.

- **SEE Action Guide for States**
  - Includes case studies, expected savings, common protocols, sources of info.

- **SEE Action EM&V Portal**
  - Evaluation, monitoring & verification (EM&V) tools and approaches that can be applied nationally, address EM&V consistency, and are widely recognized.

- **Energy Modeling 101 Presentation**
  - PPT on the basics of power sector capacity expansion modeling that briefly touches on other types of modeling and analytical tools available to provide data on the electric power system, including EE.

- **U.S. Energy & Employment State Report**
  - The 2017 USEER State Report provides a demographic and sector analysis of direct energy employment across four categories for each state: power generation, transmission, EE, vehicles.

- **DOE Programs and Resources**
  - Brief synopsis presentation of current DOE programs and resources (documents, tools) by sector that can support program administrators and planners interested in pursuing energy efficiency.

- **DOE Technical Assistance Gateway**
  - Provides an access point to DOE's technical assistance and cooperative activities with state, local, and tribal officials.
What Next? Review Concise Pathway Presentations (15-20 slides each)

Learn how to access your state’s EE potential or use as a starting point for familiarizing stakeholders

- How energy efficiency programs can support state energy planning (2017)
- Building energy codes (2017)
- City-led energy efficiency (2016)
- Combined heat and power (2017)
- Energy savings performance contracting (2016)
- Industrial energy efficiency (2017)
- Ratepayer-funded energy efficiency (2017)

energy.gov/eere/slsc/EEopportunities
Additional DOE Analyses & Updates Underway

• **EE Potential:**
  – Low income residential
  – Public buildings (energy savings performance contracting)
  – City- / locally-led efficiency
  – Industrial (to county level)
  – Low rise multifamily

• **Pathways Presentations:**
  – Residential
  – Low income
  – Energy savings performance contracting (update)
  – City- / locally led efficiency (update)
Existing DOE Technical Assistance & Resources Available
DOE Provides Support for State Energy Planning & Implementation

Based on inquiry and resources available, technical assistance can include...

### Existing Resources
- **Published Resources**
  - Provide resources or links to toolkits, guides, webinars, data, and other technical materials
- **Partnerships / Initiatives**
  - Share opportunities to join or leverage work from existing facilitated efforts
- **Expand Efforts Underway**
  - Add new info, cases, or partners to existing projects to address a request

### Launching New Projects
- **DOE Expert Consultations**
  - Provide access to DOE and Lab staff for consultation and/or analytical assistance
- **Direct Funding**
  - Provide funding through DOE funding announcements (e.g., SEP competitive, SunShot)
Simplest Way to Access Technical Assistance

energy.gov/TA

The State, Local and Tribal Technical Assistance Gateway provides an access point to DOE’s technical assistance and cooperative activities with state, local and tribal officials. Through its program and staff offices, DOE has engaged extensively with various levels of state, local and tribal governments, providing technical assistance on a range of energy issues. Our existing technical assistance and other activities, as well as relevant information offered by other federal agencies, are provided below by program or topic.

If you’re a state, local or tribal official, or a representative from an organization of such officials, with a specific question or need for assistance, email us and we’ll work collaboratively across the DOE to address your inquiry. Responses could include access
## Wide Range of DOE Existing Resources & Partnerships Available

<table>
<thead>
<tr>
<th>Typical Lead</th>
<th>Savings Pathways</th>
<th>Example Best Practice Programs, Policies, EM&amp;V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Sector</td>
<td>✓ Ratepayer-Funded Efficiency Programs</td>
<td>State and Local Energy Efficiency Action Network</td>
</tr>
<tr>
<td>S/L Gov't</td>
<td>✓ Building Energy Codes</td>
<td>Building Energy Codes Analyses of Savings</td>
</tr>
<tr>
<td>Utility</td>
<td>✓ ✓ Industrial Efficiency</td>
<td>Superior Energy Performance</td>
</tr>
<tr>
<td>S/L Gov't</td>
<td>✓ ✓ ✓ Combined Heat and Power</td>
<td>CHP Technical Assistance Partnerships</td>
</tr>
<tr>
<td></td>
<td>✓ City-Led Energy Efficiency Efforts</td>
<td>Better Communities Alliance</td>
</tr>
<tr>
<td>S/L Gov't</td>
<td>✓ ✓ Energy Savings Performance Contracting</td>
<td>Better Buildings ESPC Accelerator</td>
</tr>
<tr>
<td>S/L Gov't</td>
<td>✓ ✓ Low Income Energy Efficiency</td>
<td>Better Buildings Clean Energy for Low Income Communities Accelerator</td>
</tr>
</tbody>
</table>

S/L Gov't = state or local government
## Industrial Sector Resource Highlights

<table>
<thead>
<tr>
<th>Typical Leads</th>
<th>Savings Pathways</th>
<th>Direct Technical Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Private Sector</td>
<td>Industrial Efficiency</td>
<td>• Superior Energy Performance</td>
</tr>
<tr>
<td>• State / Local Utilities</td>
<td>Combined Heat and Power</td>
<td>• Better Buildings Better Plants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Industrial Assessment Centers</td>
</tr>
</tbody>
</table>

### Best Practice Programs and Policies
- Industrial Energy Efficiency: Designing Effective State Programs for the Industrial Sector
- SEP Cost Effectiveness Screening Tool
- SEP Program Planning Template
- SEP Program Transition Tables

### Evaluation, Measurement, and Verification (EM&V) Resources
- Superior Energy Performance EM&V Protocol
- Uniform Methods Project Protocols for CHP
- Uniform Methods Project Protocols for Strategic Energy Management/Super Energy Performance
### Commercial / Public Sector Resource Highlights

<table>
<thead>
<tr>
<th>Typical Leads</th>
<th>Savings Pathways</th>
<th>Direct Technical Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• State / Local Utilities</td>
<td>Building Energy Codes</td>
<td>• Building Energy Codes Program</td>
</tr>
<tr>
<td></td>
<td>Energy Savings Performance Contracting</td>
<td>• Better Buildings ESPC Accelerator</td>
</tr>
<tr>
<td></td>
<td>City-Led Energy Efficiency Efforts</td>
<td>• Better Buildings Challenge</td>
</tr>
<tr>
<td></td>
<td>Ratepayer-Funded Efficiency Programs</td>
<td>• Better Communities Alliance</td>
</tr>
<tr>
<td></td>
<td>Combined Heat and Power</td>
<td>• Better Buildings Alliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• State Energy Program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CHP Technical Assistance Partnerships</td>
</tr>
</tbody>
</table>

#### Documentation of Best Practice Programs and Policies
- State and Local Solution Center, Better Buildings Solution Center
- Benchmarking and Disclosure: State and Local Policy Design Guide and Sample Policy Language
- New York City Benchmarking and Transparency Policy Impact Evaluation Report
- Energy Data Access Toolkit, ESPC Toolkit, Outdoor Lighting Toolkit

#### Evaluation, Measurement, and Verification (EM&V) Resources
- DOE Benchmarking & Transparency Policy and Program Impact Evaluation Handbook
- Assessment of Automated Measurement and Verification (M&V) Methods
- FEMP M&V Guidelines Version 4
# Residential Sector Resource Highlights

## Typical Leads

<table>
<thead>
<tr>
<th>Savings Pathways</th>
<th>Direct Technical Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Energy Codes</td>
<td>• Building Energy Codes Program</td>
</tr>
</tbody>
</table>
| Low Income Energy Efficiency | • Weatherization Assistance Program  
| | • Home Performance with ENERGY STAR  
| | • Clean Energy for Low Income Communities Accelerator  
| Ratepayer-Funded Efficiency Programs | • Home Energy Score  
| | • Zero Energy Ready Home  
| | • Better Buildings Residential Network |

### Documentation of Best Practice Programs and Policies

- [Weatherization Assistance Program Technical Assistance Center](#)  
- [Building America Solution Center, Better Buildings Residential Program Solution Center](#)  
- [SEE Action Policy Makers’ Guide to Home Energy Upgrades](#)

### Evaluation, Measurement, and Verification (EM&V) Resources

- [Achieving Energy Savings and Emission Reductions from Building Energy Codes: A Primer for State Planning](#)  
- [Savings and Cost Analysis for Zero Energy Ready Homes](#)  
- [EM&V of Residential Behavior-Based EE Programs Guide](#)  
- [Residential Program Energy Efficiency Cost-Effectiveness Tool](#)
## Cross-Cutting Resource Highlights

<table>
<thead>
<tr>
<th>Typical Leads</th>
<th>Topics</th>
<th>Direct Technical Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>State / Local Utilities</td>
<td>State Energy Planning</td>
<td>• State Energy Program</td>
</tr>
<tr>
<td></td>
<td>Evaluation, Measurement &amp; Verification</td>
<td>• DOE Technical Assistance Program</td>
</tr>
<tr>
<td></td>
<td>Financing (e.g., on bill, PACE)</td>
<td></td>
</tr>
</tbody>
</table>

### Documentation of Best Practice Programs and Policies

- [Energy Efficiency Savings Opportunities and Benefits](#)
- [State and Local Solution Center](#)
- [Best Practice Guidelines for Residential PACE Financing Programs](#)
- [Current Practices in Efficiency Financing: An Overview for State and Local Governments](#)

### Evaluation, Measurement, and Verification (EM&V) Resources
- [Uniform Methods Project](#)
- [Energy Efficiency Program Impact Evaluation Guide](#)
Appendix:
References for Calculations of National and State-Level Energy Savings Potential
# References for Estimates of National and State-Level Energy Savings Potential

*NOTE: Pathways may include overlapping savings, so estimates are NOT additive.*

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Type of Estimate</th>
<th>Author, Date</th>
<th>Study Notes</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Efficiency</td>
<td>Economic Energy Savings Potential</td>
<td>DOE, 2016</td>
<td>Reports energy and electricity-only savings 2013-2030</td>
<td>Industrial Energy Efficiency Potential Analysis</td>
</tr>
<tr>
<td>Combined Heat and Power</td>
<td>Technical Electricity Potential</td>
<td>DOE, 2016</td>
<td>Reports technical potential for CHP by size range, facility type, and state based on 2015 data</td>
<td>Combined Heat and Power (CHP) Technical Potential in the United States</td>
</tr>
<tr>
<td>Building Energy Codes</td>
<td>Achievable Energy Savings Potential</td>
<td>PNNL, 2016</td>
<td>Reports energy, cost, and carbon savings for 2010-2030 and 2010-2040</td>
<td>Impacts of Model Building Energy Codes</td>
</tr>
<tr>
<td>City-Led Efficiency Efforts</td>
<td>Ballpark Achievable Electricity Potential</td>
<td>DOE, 2016</td>
<td>Total estimated savings in 2030 from 10 - 20% savings in city-wide (municipal, residential, commercial, and industrial) electricity consumption for the largest 50 U.S. cities.</td>
<td>Extrapolated from Data Sources: ACEEE, 2015, City Energy Efficiency Scorecard Table C6</td>
</tr>
<tr>
<td>Energy Savings Performance Contracting</td>
<td>Ballpark Achievable Electricity Potential</td>
<td>DOE, 2016</td>
<td>Total estimated savings in 2030 based on 0 - 8% annual growth rates in volume of ESCO projects from 2012 baseline.</td>
<td>Extrapolated from Data Sources: LBNL, 2015, Estimating customer electricity and fuel savings from projects installed by the US ESCO industry and LBNL, 2014, A method to estimate the size and remaining market potential of the U.S. ESCO industry</td>
</tr>
</tbody>
</table>