Rulemakings and Policies That Will Impact Your Energy Management Strategies

National Key Accounts Conference
March 28, 2018
Orlando, FL
Steve Rosenstock, P.E.
Overview

- Information that you can use:
  - Federal Laws and Regulations
    - A lot has happened since October, 2017!
  - Tariffs (solar, clothes washers, steel, aluminum)
  - State Laws / Regulations
  - City Laws / Regulations
  - Crypto Currency Energy **Mania** ($ Bitcoin madness)
  - Q & A
Overview (part 2)

- Does any one need a good box mover???
Issue 1 - Federal Laws
Federal Legislation (1a)

- **Four** bills of note were signed into law:

  **Efficiency**
  - S 190 (PL 115-78) PASS Act, 11/2/2017
  - HR 518 (PL 115-115) EPS Improvement Act of 2017, 01/12/2018

  **Taxes / Tax Incentives**
  - HR 1 (PL 115-97) Tax Reform Act, 12/22/2017
  - HR 1892 (PL 115-123) Bipartisan Budget Act of 2018, 02/09/2018
Federal Legislation (1b)

- **Efficiency**

- S 190 (PL 115-78) PASS Act, 11/2/2017
  - Tells DOE not to set No-Load Mode energy efficiency standards for External Power Supplies (EPS’s) connected to security or life safety alarms or surveillance systems (until at least 2021)

- HR 518 (PL 115-115) EPS Improvement Act of 2017 01/12/2018
  - Excludes EPS’s used with LED/OLED lamps and ceiling fan DC motors from current DOE efficiency standards.
Federal Legislation (1c)

Taxes / Tax Incentives

- HR 1 (PL 115-97) Tax Reform Act, 12/22/2017
- Tax rate reductions
- BIG / HUGE changes to
  - Bonus Depreciation
  - 1st Year Expensing
- It actually increased (in most cases).
Federal Legislation (1c1)

- Small Business Expensing (Section 179)
- Old laws for 2017: $500,000 with the phase out starting at $2.0 Million (for business equipment, “tangible personal property”, vehicles over 6,000 lbs GVW, computers, etc.)
- New Law, 2018: $1,000,000 with the phase out starting at $2.5 Million
- Values are indexed for inflation in 2019 and onward
Federal Legislation (1c2)

- Also, more equipment is eligible
- HVAC equipment (heating, ventilation, & cooling)
- Roofs
- Fire Protection / Alarms / Security Systems
- Refrigerators, stoves, and bed in lodging (hotels, motels, dorms, etc.).
Federal Legislation (1c3)

- **Old Law**: 50% Bonus Depreciation – for *all* businesses
- Businesses of all sizes get 50% bonus depreciation based on the cost of “tangible personal property” equipment acquired / placed in service during 2017.
- 2018: 40% Bonus Depreciation
- 2019: 30% Bonus Depreciation
- 2020: 0% Bonus Depreciation
- (equipment with a tax life of 20 years or less)
Federal Legislation (1c4)

- **New Law**: 50% Bonus Depreciation
- Businesses of **all** sizes get 50% bonus depreciation based on the cost of “tangible personal property” equipment acquired / placed in service before **September 28, 2017**.
- 2018: 40% Bonus Depreciation
- 2019: 30% Bonus Depreciation
- 2020: 0% Bonus Depreciation
Federal Legislation (1c5)

- **New Law**: 100% Bonus Depreciation. Businesses of all sizes get 100% bonus depreciation based on the cost of “tangible personal property” equipment (but not computers) acquired / placed in service **after September 27, 2017**.

- **9/28/2017 – 12/31/2022**: 100% Bonus Depreciation
  - 2023: 80% Bonus Depreciation
  - 2024: 60% Bonus Depreciation
  - 2025: 40% Bonus Depreciation
  - 2026: 20% Bonus Depreciation. 0% after 1/1/2027
Federal Legislation (1c6)

- Old Law: The 15-year recovery (depreciation) period for qualified leasehold, restaurant, and retail property was made to be “permanent”.

- New Law: “Permanent” ended on 12/31/2017. All of these buildings are now categorized as “qualified improvement property”, (QIP). 39-year depreciation.
  - Not eligible for bonus depreciation (for now)
  - Not all expenses are allowed for Section 179 expensing.
  - Source: [https://www.kbkg.com/handouts/KBKG-Qualified-Improvement.pdf](https://www.kbkg.com/handouts/KBKG-Qualified-Improvement.pdf)
Federal Legislation (1d)

- HR 1892 (PL 115-123) Bipartisan Budget Act of 2018, signed into law on 02/09/2018

- BIG impact on efficiency tax incentives
- Good news: Most incentives that expired on 12/31/2016 were reinstated

- Bad news: But only for one year (until 12/31/2017)
Federal Legislation (1d1)

- Federal tax incentives that expired on 12/31/2016 are now expired as of 12/31/2017
  - Residential New Homes Efficiency Tax Credit
  - Residential Existing Homes Efficiency Tax Credit
  - Commercial Buildings Efficiency Tax Deduction
  - AFV Infrastructure Tax Credit (residential & commercial)

- Other tax incentives did not change with tax reform or the budget bill
  - Wind
  - Solar
Federal Legislation (1d2)

- Commercial tax credits that expired on 12/31/2016 now 12/31/2017
- Commercial Building Tax Deduction (for “real property”) - still 50% improvement (except lighting)
  - $0.60 / sf for subsystems, $1.80 / sf whole building
  - Lighting: $0.30/sf to $0.60/sf for 25 - 40% improvement
  - (< 2015 project baseline: ASHRAE 90.1-2001
  - 2016 / 2017 project baseline: ASHRAE 90.1-2007)
Federal Legislation (1d3)

- Residential credits that **expired** on 12/31/2016, now 12/31/2017, with one exception
  - Energy Efficient New Homes - $2000 to builders that make a 2016 home 50% more energy efficient than IECC 2006
  - Existing home - $500 Lifetime tax credit for efficiency upgrades (going back to 2006)
  - AFV infrastructure: Tax credit of 30% of the cost (30% up to $1,000)
  - Geothermal – 30% tax credit did **not** expire on 12/31/2017.
Federal Legislation (1d4)

- Geothermal Heat Pumps

- Residential tax credits (now the same as solar):
  - 30% tax credit for projects installed in 2017 - 12/31/2019
  - 26% tax credit for projects installed in 2020
  - 22% tax credit for projects installed in 2021
  - 0% after 12/31/2021

- Commercial GHP systems tax credit:
  - 10% tax credit for projects “under construction” by 1/1/2022, retroactive to 1/1/2017.
Federal Legislation (1e)

- Transportation – Alternatively Fueled Vehicles (AFV)
- AFV infrastructure: Tax credit of 30% of the cost (< $30,000) per location expired on 12/31/2016
- Tax credits also expired for:
  - Fuel cell vehicles (12/31/2016) now 12/31/2017
  - Electric motorcycles (12/31/2016), now 12/31/2017
- Electric vehicles (up to $7,500 for 200,000 vehicles per manufacturer) do **not** expire. **Nothing changed.**
  - Tesla likely to hit cap by 3rd Quarter of 2018, GM by 2019
Federal Legislation (1f)

- Solar – **Nothing Changed** in terms of tax credits.
- Phase-out of 30% investment tax credit starts in for projects “under construction” starting in 2020
  - 30% tax credit for projects starting in **2017 - 12/31/2019**
  - 26% tax credit for projects starting in **2020**
  - 22% tax credit for projects starting in **2021** (and “placed in service” by 12/31/2023)
  - 10% tax credit for commercial projects in 2022 onward
- Also applies to qualified fuel cells and small wind energy systems.
- **10.6 GW** of solar installed in **2017**; **15.1 GW** installed in **2016**.
Federal Legislation (1g)

- Wind – Phase-out of production tax credit (2.3 cents / kWh) for projects “under construction” started last year (2017) – No change in credits or schedule.
  - 20% reduction in tax credit for projects starting in 2017
  - 40% reduction in tax credit for projects starting in 2018
  - 60% reduction in tax credit for projects starting in 2019, and no production tax credit for projects in 2020 onward
- 8.2 GW installed in 2016 (6.5 GW in the 4th Quarter)
- 6.9 GW installed in 2017
Issue 2 - Federal Regulations
Federal Regulations (2a)

- Commercial Refrigeration Equipment: Increased standards started in March 2017
- Walk-in Coolers and Freezers: Revised increased standards went into effect in June 2017, enforcement starting in 2020 (DOE / manufacturer settlement)
- Commercial / Residential Clothes Washers: 1/1/2018
- Commercial Rooftop AC and HP units: Stage 1 increase in standards on 1/1/2018
- Beverage Vending Machines: Increased standards start in January, 2019
Federal Regulations (2b)

- Commercial Pre-Rinse Spray Valves: January 2019
- Ceiling Fans: Increased Standards January 2020
- Commercial / Industrial Pumps: New (1st time) federal minimum efficiency standards start in January, 2020
- Commercial Rooftop Warm Air Furnaces: Increasing standards as of January 2023
- Commercial Rooftop AC and HP Units: Stage 2 increase in standards on 1/1/2023
Federal Regulations (2c)

- Other standards have been the subject of lawsuits, including new 1\textsuperscript{st} time efficiency standards for:
  - Commercial / Industrial Air Compressors
  - Uninterruptible Power Supplies
  - Portable Air Conditioners ("spot coolers" on wheels)

- And revised efficiency standards for:
  - Commercial Packaged Boilers
Federal Regulations (2d)

- Federal appliance standards rulemakings have slowed down, as DOE is reviewing the process for creating standards and looking at “market based” efficiency standards.

- But there is a federal law (EISA 2007) that says every appliance standard has to be reviewed every 6 years, for a new proposed rule or “no new standard”.
Federal Regulations (2e1)

- DOE was required to publish a final determination on ASHRAE 90.1-2016 by October 2017.
- DOE published their final positive determination on February 27, 2018. They determined that 90.1-2016 would save:
  - 8.3% energy cost savings, and
  - 6.8% *site* energy savings, compared to 90.1-2013.
Federal Regulations (2e2)

- **ASHRAE 90.1-2016**

  Since the DOE determination was positive, states will have 2 years (February 27, 2020) to update their commercial building energy codes to meet or exceed 90.1-2016.

- What is the current status? (states had until September 2016 to meet or exceed the 2013 version of ASHRAE 90.1 for commercial buildings)

  (Source: [https://www.energycodes.gov/status-state-energy-code-adoption](https://www.energycodes.gov/status-state-energy-code-adoption) as of 12/15/2017)
Federal Regulations (2e4)

- More states use the IECC for commercial building energy codes than ASHRAE 90.1.
- Code Proposals are due in January, 2019.
- Final action in the fall. Then, no changes for 3 years.
Issue 3 - Tariffs
Tariffs (3a1)

- **Solar** – a little history
  - 2014: The US (ITC) issues orders to place tariffs on PV cells made in China and Taiwan.
  - 9/22/2017 – The US International Trade Commission voted 4-0 for an “affirmative determination of injury” to US producers of PV cells and modules from increased imports of those products. (Section 201 of Trade Act of 1974)
  - Nov. 2017: The ITC sent its final report to the President.
  - Jan. 29, 2018: President announces tariffs
Tariffs (3a2)

- Solar (source: EIA “Today in Energy” 02/14/2018)
Tariffs (3a3)

- **Solar**  (source: EIA “Today in Energy” 02/14/2018)

![Bar chart showing PV total system costs by sector with nominal dollars per watt ($/W_{DC})](chart.png)

- *Utility (fixed axis)*: 45%
- *Utility (one-axis tracker)*: 42%
- *Commercial*: 30%
- *Residential*: 22%
Tariffs (3a4)

- **Solar** (source: EIA “Today in Energy” 02/14/2018)
Tariffs (3a5)


Flooding the U.S. market
Fourth-quarter panel imports skyrocketed compared with first nine months of 2017

Source: Bloomberg New Energy Finance
## Solar Tariffs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariff on Modules and Cells</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Cells Exempt from Tariff</td>
<td>2.5 GW</td>
<td>2.5 GW</td>
<td>2.5 GW</td>
<td>2.5 GW</td>
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</tbody>
</table>
## Tariffs (3b)

- Clothes Washers – “Large Residential” units only

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 1.2 Million</td>
<td>20%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>Imported Units</td>
<td></td>
<td></td>
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<tr>
<td>All subsequent</td>
<td>50%</td>
<td>45%</td>
<td>40%</td>
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<tr>
<td>finished imports</td>
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<tr>
<td>Tariffs on</td>
<td>50%</td>
<td>45%</td>
<td>40%</td>
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<tr>
<td>Covered Parts</td>
<td></td>
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</tr>
<tr>
<td>Covered Parts</td>
<td>50,000 units</td>
<td>70,000 units</td>
<td>90,000 units</td>
</tr>
<tr>
<td>Excluded from Tariffs</td>
<td></td>
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</tbody>
</table>
Tariffs (3c)

- **Steel and Aluminum**
  - **Steel**: 25% (start on 3/23/2018)
    - Canada, Mexico, the EU, Argentina, Australia, Brazil, and South Korea are exempt – for now (50% of steel sold to US)
    - Companies can ask US Commerce Dept. for individual exemptions
    - However, any one can file objections to exemptions
  - **Aluminum**: 10% (start on 3/23/2018)
    - Canada, Mexico, the EU, Argentina, Australia, Brazil, and South Korea are exempt – for now
Tariffs (3d1)

- **China**
- On 3/22/2018, President Trump announced that the US would impose about $60 Billion worth of tariffs on Chinese imports.
  - List of tariffs will be published by April 6, 2018. Then a 30 day comment period.
  - 1,300 lines of Chinese products, including: advanced IT equipment, automated machine tools and robotics, aerospace/aeronautics equipment, maritime and high-tech shipping, electric vehicles and equipment, power equipment, and agricultural equipment.
Tariffs (3d2)

- China’s share of U.S. imports (New York Times, 3/22/18)
- Computers and electronics 46%
- Electrical equipment 38%
- Miscellaneous goods 34%
- Machinery, except electrical 21%
- Furniture and fixtures 56%
- Fabricated metal products 32%
- Plastics/rubber products 32%
Tariffs (3d3)

- On 3/23/2018, China announced tariffs of $3 Billion on 128 products imported from the US, including:
  - 25% tariff on U.S. pork imports (& 7 other products)
  - 15% tariffs on American:
    - Steel pipes
    - Fruit
    - Wine (and 117 other products)

Issue 4 – State Laws / Regulations
State Laws/Regulations (4a1)

- **California Title 24** 2019 version – Comments were due to the CEC by March 5, 2018.
- CEC goal: Residential “ZNE” by 2020
- Proposal: **Require** all new homes to have solar PV.
  - Exceptions for shading and other factors
**State Laws/Regulations (4a2)**

- **California Title 24 2019**: Install PV panels with “annual electric output equal to the dwelling’s annual electrical usage as determined by Equation 150.1-C”

- $$\text{kW}_{PV} = \left[ \frac{(CFA \times A)}{1000} \right] + (\text{NDwell} \times B)$$
  - $$\text{kW}_{PV} = \text{kWdc size of the PV system}$$
  - CFA = Conditioned floor area
  - NDwell = Number of dwelling units
- A = Adjustment factor from Table 150.1-C (0.56 – 1.59)
- B = Dwelling adjustment factor from Table 150.1-C (1.06-1.51)
State Laws/Regulations (4a3)

- **California Title 24 2019:**
- PV requirement: This is the **first** time that any **minimum** (non-green or non-stretch) building energy code has required:
  - Building to produce electricity (and **only** electricity) not associated with emergency equipment
  - **Only** produce electricity with PV panels
This graph depicts the production of various generating resources across the day.
State Laws/Regulations (4a5) 03/04/18

Hourly Average Breakdown of Total Production By Resource Type

Renewables
State Laws/Regulations (4a6)

- Why it is important: Recall the CEC policy goals:
  - Commercial buildings: “Zero Net Energy” by 2030
  - Current CA RPS = 33% by 2020, 50% by 2030

- CPUC: % of RPS procurement currently under contract for 2020: PG&E 43.0%; SCE 41.4%; SDG&E 45.2%  [http://www.cpuc.ca.gov/RPS_Homepage/](http://www.cpuc.ca.gov/RPS_Homepage/)
State Laws/Regulations (4b)

- ACEEE blog post, 2/15/2018: “As federal efforts lag, states are picking up the slack on appliance standards”
- California: Title 20 Proceedings
- New York: “Establishment of Energy Efficiency Target by Earth Day”
- Will other states follow their lead?
State Laws/Regulations (4c1)

- California
- General Service Lighting: In January, 2016, the CEC adopted new standards for LED general service light bulbs (and small diameter direction lamps, like MR 16’s)
  - Tier 1 took effect on January 1, 2018
  - Tier 2 for general service LED’s starts on July 1, 2019
  - They are looking at an expanded scope for GSL rules.
State Laws/Regulations (4c2)

- Other Current CEC Title 20 Rulemakings:
- Commercial / Industrial Fans & Blowers; Portable AC; UPS’s;
- Commercial Air Compressors; Commercial Tumble Dryers
- Pool Pumps and Pool Pump Replacement Motors
- Portable Electric Spas
- Battery Chargers
- Hearth Products
- Air Filter Labeling
- Water products (tub spout diverters, sprinkler spray bodies, and irrigation controllers)
State Laws/Regulations (4c3)

- **New York**: On or by April 22, 2018:
  - Establish their own State Appliance Efficiency Standards or Rulemakings
    - New York established standards or rulemakings for several commercial products between 2004-2008.
  - Accelerating Building Energy Codes
Issue 5 – City Regulations
City Regulations (5a)

- Why am I talking about cities?
- “Cities are tightening building codes and pressuring owners to translate climate goals into energy efficiency and savings” (Inside Climate News, 9/22/2017)
- “381 Climate Mayors, representing 67.9 million Americans, commit to uphold the Paris goals” (http://climatemayors.org/)
- Chicago, Denver, Dallas, Los Angeles, Detroit, New York City, Miami, Seattle, Phoenix, Houston, and many other large cities have signed on.
City Regulations (5b1)

- **New York City**
- I talked about items 1629 and 1632 last time.
- Mayor DeBlasio got re-elected in November.

- **Bad News:** Both laws were enacted on 1/8/2018
- **Good News:** Both laws were changed in December, 2017, but they still cause issues.
City Regulations (5b2)

- Intro. No. 1632
- Requires property owners to post energy efficiency grades and publicly disclose grades based on Energy Star methodology.
  - Scores based on source energy estimates.

- Grades are based on Energy Star methodology.
City Regulations (5b3)

- Intro. No. 1632 Grades:
  - A \( \geq 90 \)
  - B \( \geq 50 \) and \( < 90 \)
  - C \( \geq 20 \) and \( < 50 \)
  - D \( < 20 \)
  - F No benchmarking information submitted
  - N Not covered by Energy Star program
  - (to get Energy Star label, you need 75)
City Regulations (5b4)

- Intro. No. 1629 – Originally required **all** new or totally renovated buildings to be “low energy intensity” buildings as of 1/1/2025
  - 30% below the “source” energy intensity baseline for all new buildings, or
  - 38 “source” kBtu / square foot / year.
  - Occupancy Groups F (assembly) and H (institutions) have to be 30% less than ASHRAE 90.1-2013, excluding process loads
  - 42 “source” kBtu / square foot / year for renovations
City Regulations (5b5)

- Intro. No. 1629 – Revised to the following:
  - **2019**: City energy code to match NYSERDA “model stretch energy code”
  - **2022**: City energy code to match the updated NYSERDA “model stretch energy code”
  - **2025**: City to establish “predicted energy use targets” by building type. Targets are established by an city energy conservation code advisory committee.
  - Targets are “expected” to be less than 70% of predicted energy use if the building was built to ASHRAE 90.1-2013.

- The Building and Safety Dept. has 90 days to develop recommendations, including converting buildings using natural gas to electricity produced by renewable sources.
- The department also should look at replacing gas in thermal heating loads, water heating and cooking in new buildings.
- The council also directed the LADWP to set aggressive 2028 and 2038 electrification requirements for new buildings that would align with the city's greenhouse reduction target.
City Regulations (5c2)

- Los Angeles
- Goal: Reduce GHG emissions by 45% below 1990 levels by 2025 and 60% below 1990 levels by 2035.
- The city in 2015 set a target to reduce energy use per square foot by 25% by 2025 and 30% by 2035.
- “Our vision for L.A. is to be fossil fuel-free, and we need building electrification to make this vision a reality,” says Lauren Faber O’Connor, L.A.’s chief sustainability officer.
City Regulations (5d1)

U.S. Building Benchmarking and Transparency Policies

Public, commercial, and multifamily building benchmarking policy adopted
Public and commercial building benchmarking policy adopted
Public buildings benchmarked
Issue 6 - Crypto Currency

Energy Mania
Crypto Currency Energy Mania (6a)

- December 11, 2017 Newsweek: “Bitcoin Mining on Track to Consume All of the World’s Energy by 2020” (emphasis added)
- January 11, 2018 Fortune: “Bitcoin Consumes 30 Times More Electricity than Tesla Cars” (emphasis added)
  - “In 2018, Bitcoin’s power demand is set to more than triple, consuming as much energy in a year as the entire nation of Argentina, according to a new report by Morgan Stanley”
- February 13, 2018 Washington Post: “Cryptocurrency mining in Iceland is using so much energy, the electricity may run out” (emphasis added)
Crypto Currency Energy Mania (6b)


Growth of Bitcoin Mining Electricity Consumption

Projected Growth Of Bitcoin Mining Electricity Consumption As A Percent of Total Global Electricity Consumption
Crypto Currency Energy Mania (6c)

- "Bitcoins are created or generated by the network as a reward for the “mining” process, a computational effort in which blockchain—that is, public ledger—transactions are verified."
- "It involves mathematical problems of varying difficulty, software to solve them, and a schedule that ensures that solutions are discovered on a highly regulated basis. All you need to know is that every time a mathematical solution is found, a new “block” on the chain is created. Blocks cannot be removed or altered once they’ve been accepted by the network."
- "The bitcoin supply is capped at just under 21 million coins. More than 16.7 million coins have been mined as of Dec. 30, 2017."
Crypto Currency Energy Mania (6d)

- So, what is going on???
- Step 1: Exaggerate energy used to mine one bitcoin.
- Step 2: Multiply that by the number of transactions.
- Step 3: Assume exponential growth in mining and transactions ("growing by 25% per month").
- Step 4: Do the exaggerated math to its absurd result
- 25% per month = doubling every 3 months, 4\(^*\) in 6 months, 16\(^*\) in a year, 256\(^*\) in 2 years, and 2,048\(^*\) in 3 years.
Crypto Currency Energy Mania (6e)

Bitcoin “value” [https://blockchain.info/charts/market-price?timespan=2years]
Crypto Currency Energy Mania (6f)

Transactions: https://blockchain.info/charts/n-transactions?timespan=all
Crypto Currency Energy Mania (6g)

Transactions:  https://blockchain.info/charts/n-transactions?timespan=2years
Crypto Currency Energy Mania (6h)

- What was the impact of Crypto Currency Mining on Total US Electric Consumption in 2017 (versus 2016)?
  - A: Up by 0.5%
  - B: Up by 1.0%
  - C: Up by 2.0%
  - D: Up by 3.0%
  - E: Up by over 5.0%
Crypto Currency Energy Mania (6h)

- What was the impact of Crypto Currency Mining on total US Electric Consumption in 2017 (versus 2016)?
- F: Down by 2.1%

<table>
<thead>
<tr>
<th>Sector</th>
<th>December 2017 YTD</th>
<th>December 2016 YTD</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>1,378,819</td>
<td>1,411,058</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Commercial</td>
<td>1,349,208</td>
<td>1,367,191</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Industrial</td>
<td>946,443</td>
<td>976,715</td>
<td>-3.1%</td>
</tr>
<tr>
<td>Transportation</td>
<td>7,524</td>
<td>7,497</td>
<td>0.4%</td>
</tr>
<tr>
<td>All Sectors</td>
<td>3,681,995</td>
<td>3,762,462</td>
<td>-2.1%</td>
</tr>
</tbody>
</table>
Summary (1)

- Talk to your accountants about 2017 projects that are now eligible for 2017 federal tax breaks (especially if placed in service after 9/27/2017, 4th Quarter).
- For items affected by tariffs, consider purchasing before June or July.
- Certain states and cities are getting more aggressive on building codes and appliance standards. You need to be involved.
- You will be able to use electricity in 2020, and beyond.
Summary (2)

- For those who want to mine virtual currency:
Q & A

- The floor is open!
The Edison Electric Institute (EEI) is the association that represents the U.S. investor-owned electric industry. Our members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly employ more than 500,000 workers. Safe, reliable, affordable, and clean electricity powers the economy and enhances the lives of all Americans.

The EEI membership also includes dozens of international electric companies as International Members, and hundreds of industry suppliers and related organizations as Associate Members.

Since 1933, EEI has provided public policy leadership, strategic business intelligence, and essential conferences and forums for the energy industry.

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