New commercial rooftop and split system efficiency regulations went into effect January 1, 2018, for IEER minimums. IEER (Integrated Energy Efficiency Ratio) is used as a representation for part-load performance.

Today, new energy code adoption is done state-by-state. The latest revision for commercial HVAC is ASHRAE 90.1-2016. 13 states have adopted ASHRAE 90.1-2013 or higher. The balance of states have adopted revisions that are older or they have no standard code.

The new minimum standards will occur in two phases. The first phase began in 2018 and required, on average, a 13% efficiency improvement in systems. Five years later, an additional 16% increase in efficiency, on average, is required for new commercial units.

Over the lifetime of the products, businesses will save $167 billion on their utility bills, and carbon pollution will be reduced by 885 million metric tons.

A building owner can save on average $3,700 per RTU by replacing aging equipment with high-efficiency units or retrofitting with advanced controls. Now consider a typical big box retailer may have more than 20 units.

System manufacturers have redesigned air conditioning equipment to meet 2018 minimums, as well as product portfolios to include new mid- and premium tiers above the minimum levels.

With higher part-load efficiency (IEER) systems, building owners may experience potentially higher initial costs, but lower operating costs. In addition, the industry will likely see several system design updates including:
- Possible larger system sizes due to heat exchanger surface area
- An increased use of modulated scroll compressors, such as two-step capacity scrolls and multiples, as well as variable speed scroll compressors
- Staged fan speeds with variable frequency drives on blower motors

A cost-effective way to meet efficiency standards is by installing tandems. In fact, 13% of contractors expect an increase in sales of tandems and trios as a result of new efficiency standards.

According to the Department of Energy (DOE), over half of the commercial real estate space in the U.S. is cooled by packaged HVAC equipment.

The Consortium of Energy Efficiency (CEE) released final efficiency tiers that went into effect January 12, 2016. An advanced RTU is defined as one that meets or exceeds the CEE Tier 2 entry air conditioning specification.

Emerson recently conducted a survey among consulting specifying engineers and found that 27% are unaware of upcoming regulations and 37% don’t understand how those regulations will impact their business. Here are 10 things you need to know about the changes affecting the commercial air conditioning market.

### HOW BIG IS THIS?
According to the Department of Energy (DOE), over half of the commercial real estate space in the U.S. is cooled by packaged HVAC equipment.

### TODAY'S EFFICIENCY LANDSCAPE
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### NEW NATIONWIDE DOE MINIMUMS
New commercial rooftop and split system efficiency regulations went into effect January 1, 2018, for IEER minimums. IEER (Integrated Energy Efficiency Ratio) is used as a representation for part-load performance.

### NEW REGULATIONS WILL BE A TWO PHASE APPROACH
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### ESTIMATED SAVINGS
Over the lifetime of the products, businesses will save $167 billion on their utility bills, and carbon pollution will be reduced by 885 million metric tons.

### ADVANCED ROOFTOP UNITS (RTUs)
The Consortium of Energy Efficiency (CEE) released final efficiency tiers that went into effect January 12, 2016. An advanced RTU is defined as one that meets or exceeds the CEE Tier 2 entry air conditioning specification.

### REPLACING/RETROFITTING RTUs WITH HIGHER EFFICIENCY UNITS
A building owner can save on average $3,700 per RTU by replacing aging equipment with high-efficiency units or retrofitting with advanced controls. Now consider a typical big box retailer may have more than 20 units.

### REGULATIONS ARE DRIVING SYSTEM REDESIGN
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### MEETING REGULATIONS WITH MODULATION SOLUTIONS
A cost-effective way to meet efficiency standards is by installing tandems. In fact, 13% of contractors expect an increase in sales of tandems and trios as a result of new efficiency standards.

### IMPACT OF NEW REGULATIONS
With higher part-load efficiency (IEER) systems, building owners may experience potentially higher initial costs, but lower operating costs. In addition, the industry will likely see several system design updates including:
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### SOURCES
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- Emerson 2017 Survey