

**Before the
Committee on Energy and Natural Resources
United States Senate**

**Hearing on
“Energy Efficiency Efforts in the United States and Internationally”**

**Statement of W. Scott Tew
Executive Director, Center for Energy Efficiency & Sustainability
Ingersoll Rand**

Summary of Key Points

- Ingersoll Rand, and its strategic climate brands Thermo King and Trane, are playing a key role in the evolution of innovation as a catalyst in the area of energy efficiency.
- As the world continues to face the ongoing challenges brought about by urbanization, resource constraints, workforce dynamics, and climate change, we are developing and unleashing solutions that will help our planet.
- Ingersoll Rand makes energy efficiency and sustainability commitments designed around our global supply chain and operations, our industry-leading products, systems and services, and quality-of-life enhancements.
- At Ingersoll Rand, we set and deliver on our energy efficiency and climate commitments, and delivered our first generation commitments one year ahead of time.
- Earlier this year, we launched our ‘2030 Sustainability Commitments’ with new environmental targets that include:
 - Transforming our global supply chain;
 - Reducing our customer carbon footprint by one gigaton of carbon dioxide through our heating, ventilation, air-conditioning, and transport refrigeration products and services; and
 - Increasing opportunity for all by strengthening economic mobility and bolstering the quality of life of our workforce and those in the communities where we operate and serve.
- We believe there are a few key points to keep in mind as policymakers, regulators, and industry work together to identify new solutions for our nation’s energy efficiency needs.
 - Energy efficiency is good for business, consumers, and the health of our climate.
 - Future building policy must recognize system interactions within buildings and their environments.

Written Testimony of W. Scott Tew, Ingersoll Rand

Thank you Chairman Murkowski, Ranking Member Manchin, and good morning to all of the members of the committee.

My name is Scott Tew and I help lead the development of Ingersoll Rand's global regulatory and industry positions with regard to energy efficiency, sustainability, and climate. Through our strategic climate businesses, Thermo King and Trane – we heat, cool, and automate homes and buildings and keep transported food and perishables safe and fresh. We are also playing a key role in the evolution of innovation as a catalyst in the area of energy efficiency.

We're passionate about building a better future - a world marked not just by progress, but *sustainable* progress. And as our planet continues to face the ongoing challenges brought about by urbanization, resource constraints, workforce dynamics, and of course, climate change, Ingersoll Rand, and our Trane and Thermo King businesses, are developing and unleashing solutions to help. We've been at this a long time – when our company was founded nearly 150 years ago, Ulysses S. Grant was President, and the great state of Alaska was still 88 years from officially becoming one. With time has come experience and, we believe, credibility. And at the heart of everything we do is our commitment to sustainability, a greater purpose that allows us to make a positive impact on the world.

Chairman Murkowski, I would like to commend you for convening this important hearing today to discuss ways our nation can tackle energy efficiency and

sustainability issues both here in the United States and abroad. We are honored to be a part of the conversation and look forward to working with you and all members of the committee.

For our part, Ingersoll Rand makes energy efficiency and sustainability commitments designed around global supply chain and operations, industry-leading products, systems and services, and quality of life enhancements. They allow us to address global issues like climate change, and to be the brands the world looks to for solutions that reduce energy dependence and emissions while preserving food, water, and other natural resources.

At Ingersoll Rand, we set and deliver on energy efficiency and climate commitments, and delivered our first generation commitments ahead of time. In 2014, we set out to reduce the greenhouse-gas refrigerant footprint of our product portfolio by 50% by the year 2020. Our efforts though actually yielded a 53% reduction two full years ahead of schedule. We also pledged in 2014 to reduce our operational greenhouse-gas footprint by 35%. Again, we were able to reduce that impact by an even greater number, 45%, and years ahead of schedule. We are also on pace to fulfill a pledge to invest \$500 million in product-related innovations and development by 2020. So we have much to be proud of, but plenty more to do.

To that end, we recently launched our '2030 Sustainability Commitments' with new environmental targets that include:

1. Transforming our global supply chain to have a restorative impact on the environment by achieving carbon neutral operations and limiting our impact on water supplies.
2. Reducing our customer carbon footprint by one gigaton of carbon dioxide through our heating, ventilation, air-conditioning, and transport refrigeration products and services. We call this 'The Gigaton Challenge,' and it's the largest customer climate commitment ever made by a company like ours. In case you're wondering, a gigaton is roughly the equivalent of the annual emissions of Italy, France, and the United Kingdom combined. Trust me, it's a lot. But we will get this challenge done by continuing to invent, innovate, and invest.
3. Increasing opportunity for all by strengthening economic mobility and bolstering the quality of life of our workforce and those in the communities where we operate and serve. This includes gender parity in leadership roles and a workforce reflective of our community populations.

From our vantage as a leader in the business of sustainability, we believe there are a few key points to keep in mind as policymakers, regulators, and industry work together to identify new solutions for our energy efficiency needs. First, energy efficiency is good for business, consumers, and the health of our climate. And that's why energy codes and appliance standards remain the bedrock of any effective building energy policy in developed economies like the U.S. Advancements in this area mean that new U.S. buildings built to code are over 30% more efficient than they were forty years ago.

Improvements in appliance standards for air conditioning equipment now mean that our products use at least 25-35% less electricity, but provide the same cooling capacity. These policies not only save consumers money and reduce greenhouse-gas emissions in their own right, but they also allow us to manage the energy usage of our products, which in turn, modernizes our energy infrastructure. And that's something we need given the challenges we continue to face.

For example, buildings were responsible for 39% of energy use and 36% of carbon dioxide emissions in the United States in 2018 alone. In addition, the heating and cooling of buildings constitute 12% of our total annual emissions, a figure that could double by 2030 as urbanization accelerates and the environment gets warmer.

According to the *Rockefeller Foundation* and *Deutsche Bank*, a \$279 billion dollar investment in retrofitting residential, commercial, and institutional buildings in the U.S. would yield over \$1 trillion in energy savings over 10 years. That represents 30% of the annual spending on electricity in the U.S. and a cut in emissions of almost 10 percent. And it's just one area where we can, and must, continue to focus our efforts in the energy efficiency space.

It is important to remember too that pragmatic and reasonable energy efficiency standards benefit everyone. They ensure that consumers are protected from the costs of higher utility bills that come from purchasing less efficient equipment. And for solution providers like Ingersoll Rand, energy efficiency standards provide business certainty which affords the opportunity to strategize new product development and market accessibility. That is especially important for our

commercial and industrial customers, who value increased predictability and the management of energy costs as reassurances that they can invest confidently in other areas.

Ultimately, U.S. leadership on energy efficiency standards means that we can focus our innovation on solutions designed for the North American market, while seeking opportunities to bring technologies to countries developing their own standards.

Finally in this area, energy efficiency leadership does not stop with codes and standards. By promoting and incentivizing federal programs like ENERGY STAR, even more energy savings will benefit consumers and improve the way we measure, track, and optimize energy consumption.

The second point I would like to highlight is that future building policy must recognize system interactions within buildings and their environments. So while there will always be a place for robust energy codes and appliance standards, we all must begin to think beyond energy performance at the individual product level. Because that's where the bigger opportunity for energy savings will come from – in the way building products and systems interact with one another, are controlled, and respond to constantly changing environmental conditions.

Great care must also be taken when it comes to crafting codes and standards so that solutions that improve overall efficiency at the system level remain available to consumers. To further achieve this outcome, codes and standards need to continue

evolving with the flexibility to incorporate system-level effects, and encourage optimal efficiency in a given application.

The potential opportunities do not stop at the building-system level either – buildings are also assets in our infrastructure and our environment. Building management systems can respond to signals from the grid, and automate any connected subsystem or component to optimize performance. Likewise, connected buildings can respond to external conditions, and adjust operations to maintain a comfortable indoor environment while minimizing impact on the outdoor environment. That is the essence and the calculus of energy efficiency – determining the desired energy outcomes for improvement, assigning metrics that identify progress, and implementing policies that encourage solutions to achieve them.

Looking ahead, the work remains challenging, but incredibly exciting too. And I am privileged to work in an industry that continues to transform our planet, our communities, and our lives, all for the better.

Thank you again Chairman Murkowski for the kind invitation to be here today and I look forward to answering any questions you and the committee members may have.