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ESCO STATEMENT OF QUALIFICATIONS

ESCO Statement of Qualifications

1. Executive Summary

1. *Summarize your firm's commitment to comply with the policies, procedures and rules as outlined in the AEPC Program Rules Manual. (If changes are made to the manual, AEO will articulate those changes to all pre-qualified providers and require a receipt that they have been received).*

On behalf of Trane U.S., Inc. we would like to thank the Arkansas Energy Office for the opportunity to participate in this Request for Qualifications to be recertified as an Energy Services Company under the AEO's Energy Performance Contracting Program. This submission represents our updated qualifications in the format prescribed by the AEO. If re-certified, Trane will comply fully with the policies, procedures, and rules as outlined in the AEPC Program Rules and Regulations and AEPC Program Manual.

Trane is one of only a handful of NAESCO-accredited Energy Services Companies. We were first accredited by the National Association of Energy Services Companies in 2004. Accreditation by NAESCO involves a rigorous examination of a company's end-to-end capabilities, including the analysis, design, implementation, and measurement and verification of a full range of energy savings measures and technologies; and their ability to arrange for project financing and to guarantee the financial performance (savings) and technical performance of the project on a first-party basis. Since 1995, when Trane began offering comprehensive energy solutions, we have worked with a broad spectrum of customers, including Federal and State Agencies, Higher Education, K12 Schools, and Local Governments. Currently, Trane's active portfolio includes more than [redacted] projects exceeding [redacted] in savings guarantees for our customers.

Our experienced teams include sales, development engineers, project managers, Control and HVAC specialists, measurement and verification professionals, and support staff. They adhere to industry standards and protocols, allowing our customers to have confidence in our ability to develop, execute, and support their project. We believe each customer is unique, and we customize our solutions to meet or exceed the goals and objectives of each one. Our success is predicated on our ability to positively impact our customer's organization and bottom line.

We think it's important to be fully present and represented in Arkansas. When we ask our customers to consider an energy savings performance contract with Trane, they should expect to be partnered with a team of dedicated professionals in Arkansas who will support their project today, over the life of the project, and beyond, and a company with the financial resources to guarantee their investment. Trane is invested in Arkansas.

In July, 2017 when the prior Trane franchisee terminated its agreement to represent Trane in Arkansas, Trane U.S., Inc. established two Company Owned Commercial Sales Offices to support its extensive Arkansas customer base. Since then, our company-owned Trane Commercial operation in Arkansas has grown to a force of over 75 employees.

Our company-owned offices, manufacturing facility, and the employees that live and work in the State are evidence of Trane's commitment to Arkansas and our Arkansas customers. Our presence in Arkansas means we'll be here – today, tomorrow, and years into the future to do just that: support our customers.

If you are interested in energy savings performance contracting, we ask that you consider Trane. We're invested in Arkansas.

Arkansas Presence

Trane has been operating in the State of Arkansas since 1959. Our management team thoroughly understands and abides by all state and local licensing and labor requirements. Trane is properly licensed in the State of Arkansas to provide multiple services.

Today, Trane employs more than [redacted] employees that live and work within the state of Arkansas. These employees work in the local Commercial and Residential sales offices, Trane Supply parts stores, and Trane plant located in Fort Smith. The Fort Smith plant was recently honored for achieving the 2018 Ingersoll Rand North America Applied Commercial HVAC Plant of the Year award. Our organization and personnel are involved within the local community and help drive economic development throughout the state.

2018 Ingersoll Rand North America Applied Commercial HVAC Plant of the Year Award Winners

Before July 2017, Trane's commercial business in Arkansas was solely represented by a franchised distributor d/b/a Harrison Trane and/or Harrison Energy Partners (HEP). During that time, Trane established a significant market presence serving many customers and forming countless partnerships, including a successful history with many state agencies.

After Harrison Energy Partners canceled their franchise agreement with Trane on June 30, 2017 the majority of the State of Arkansas became part of Trane's Heartland District. The Heartland District currently serves commercial and institutional markets in Missouri, Arkansas, Illinois and Iowa with its district office in St. Louis, MO. Trane has two commercial offices in Arkansas, located in Little Rock and Springdale. There is an additional office in Memphis TN which is part of Trane's Tennessee / Mississippi District, which serves several counties in the northeast part of Arkansas.

Minimum Qualifications

2. Summarize how your firm meets the minimum qualifications, stated in Part 1, Section 5.

"Qualified provider" means a person or business, including all subcontractors and employees of that person or business and third-party financing companies, that: (A) Is properly licensed in the State of Arkansas;

Trane is properly licensed by the Commercial Contractors Licensing Board in the State of Arkansas:

- Classification — Building – Commercial and Residential
- Bid Limit ($s) — Unlimited.
- Specialty Classifications: — Energy Management and HVACR
- License No. — 0035080420

A copy of our current license is provided in the Appendix, and can also be validated via the State of Arkansas Contractors Licensing Board website: https://portal.arkansas.gov/agency/department-of-labor-and-licensing/contractors-licensing-board/service/contractor-licensee-search/

(B) Has been reviewed and certified by the Arkansas Energy Office as a qualified provider under this subchapter;

Trane is currently listed as a Qualified Provider on the Arkansas Energy Office web site:
https://www.adeq.state.ar.us/energy/incentives/performance.aspx

Trane Arkansas	Beau Reynolds Account Manager - Building Systems Phone: 501-478-2938 Cell: 501-366-4252 Beau.Reynolds@trane.com	19 Colonel Glenn Plaza Drive Little Rock, AR 72210	www.trane.com/buildingadvantage

This Statement of Qualifications provides updated information required for Trane's recertification as a Qualified Provider under the AEO's AEPC Program.

(C) Is experienced in the design, implementation, measurement, verification, and installation of energy cost savings measures;

For more than 100 years, Trane has been making buildings better. Today we are one of the nation's leading energy services providers. Trane has been a NAESCO-accredited Energy Services Company since 2004 and has been a DOE qualified ESCO since 1998, delivering over [redacted] guaranteed savings to our customers. We directly employ industry professionals to evaluate, analyze, design, construct, and guarantee the performance of a wide range of energy, operational, and capital improvements. Improvements are specifically designed to improve energy and operational efficiency for our clients. Our measurement and verification specialists adhere to the guidelines established by the International Performance Measurement and Verification Protocol (IPMVP) and Federal Energy Management Program (FEMP) ensuring that our clients can trust the savings methodologies and validation processes used for their Energy Savings Performance Contracting (ESPC) projects.

Our public sector clients include federal, state, and local governments; universities and colleges; technical and K12 schools. We customize solutions and services to meet the short and long term goals of our clients and have the technical and financial resources to guarantee the results --- over the life of the project.

(D) Has at least five (5) years of experience in the analysis, design, implementation, installation, measurement, and verification of energy efficiency and facility improvements;

As noted in item C above, Trane has been providing the full breadth of energy services for over two decades. Please refer to the table in Section 9 of this submission for a list of ESPC projects implemented by Trane Heartland District (AR, MO, IA, and a portion of IL), and adjoining Tennessee / Mississippi Districts (TN, MS, and a portion of AR), over the past five years.

(E) Has the ability to arrange or provide the necessary financing to support a guaranteed energy cost savings contract; and

The financing component of an ESPC contract typically leverages 3rd party financing. Trane helps customers connect with highly qualified lenders that have considerable experience with guaranteed energy cost savings contracts. Trane has established relationships with major lending institutions, both nationally and regionally, that regularly finance guaranteed energy-savings performance contracts (ESPC) and renewable energy projects for public sector clients. They understand the documentation process by which these projects can verify that they will pay for themselves over time.

We work with our customers to help them obtain the most competitive interest rates and advantageous financing terms available. Trane makes no money on the third party financing of an ESPC project. Our assistance in helping the client obtain project financing is transparent and unbiased. Typically, a representative interest rate from a financial institution is used in Trane's project proforma and shared with the client during final ECM selection to demonstrate the "projected cash flow" of the project each year, and cumulatively, over the term of financing.

(F) Has the ability to perform under a contract that requires the person or business to guarantee the work performed by one (1) or more subcontractors;

Trane, as the prime contractor on energy performance contracting projects, routinely subcontracts to multiple trades and specialty contractors during the project installation phase. We take complete responsibility for the quality of their work, offering single-source accountability to our customers.

To guarantee subcontractor quality, Trane employs a stringent qualification process to ensure subcontractors meet both customer and internal requirements, such as safety record, bond ratings, insurance coverages, and financial soundness/stability.

Through our local, regional, and national footprint as a major HVAC equipment supplier and service provider, we work with a variety of trade disciplines. We believe this gives Trane an advantage in having first-hand knowledge and experience of the subcontractors available, the quality of their work, and their ability to perform.

3. Summarize how your firm's expertise and approach will enhance the effectiveness and reputation of the AEPC Program.

Trane is an industry-leading global brand with a strong local and national presence. We are an established market leader in creating high performance, energy-efficient building environments for institutional, government, commercial, and industrial clients. We have a strong market share and a large installed base of equipment, systems, controls, and service customers across the State of Arkansas.

As we continue to serve our Arkansas clients and grow our footprint throughout the State, Trane is well-positioned to promote and increase awareness of the AEPC program. We have dedicated ESPC-market teams based in Arkansas and supported by our District office to enhance the AEPC program by giving our customer's access and the ability to evaluate and implement a comprehensive program of energy services offerings.

We believe that the AEO's Energy Performance Contracting Program and with standardized documents and processes provides a conduit for public sector clients in Arkansas to acquire and implement an ESPC program with guidance from the AEO. We will encourage K12 and local government clients to utilize the AEO's program whenever advisable.

- **Energy Performance Contracting Expertise** ➤ Our team has implemented over [redacted] in Guaranteed Energy Savings Contracts with municipalities, school districts, hospitals, and universities to date. Nationally, Trane U.S. Inc. has completed more than 1,000 energy savings projects since becoming a NAESCO accredited Energy Services Company in 2004 and secured $[redacted] in large-scale energy contracts last year alone. Our vast experience, paired with the client's enthusiasm, will undoubtedly lead to achieving maximum results and impact for our customers.
- **Credentials** ➤ We are one of a handful of companies ***fully accredited*** by the National Association of Energy Services Companies (NAESCO), a DOD/DOE qualified Energy Services Company (ESCO), charter ally of the U.S. EPA Energy Star Program, a business partner in the DOE Rebuild America program, and a leader in the U.S. Green Building Council LEED initiative. We are also will work with local utilities and the incentive managers for the majority of utility companies serving Arkansas. We have a proven track record applying for and leveraging custom/standard utility grants and incentive programs for our customers, having secured millions of dollars on our energy contracts on behalf of our clients.
- **Full Service and Support** ➤ Our local presence in the both the Heartland & Tennessee/Mississippi District and the stability of our Energy Service and Performance Contracting team enables Trane to be a single point-of-contact not only throughout the implementation phase but for the life of the installed project. Trane is not a broker or contractor. We are a comfort solutions provider that creates customers for life. Additionally, we have training resources readily available to ensure that our customers are fully equipped to properly maintain energy and infrastructure upgrades. All of these benefits together will provide our customers the peace of mind and accountability, so there is no finger-pointing or third-party suppliers or contractors to work through. You can make one call to TRANE anytime 24/7.
- **Risk** ➤ We are the leader in large scale, complex projects like Energy Savings Performance Contracting. These projects require an experienced, proven partner with the scale and resources to execute this type of work. We deliver results…on time and budget. We understand how to balance needs, quality, and budget to deliver maximum value to the public agency.
- **Guaranteed Results/M&V Reporting** ➤ Trane has been in business for 100+ years and has the balance sheet and financial backing of Trane/Ingersoll Rand. As a government contractor, Trane provides an audit trail to document performance using industry-standard Measurement & Verification (M&V) protocols to reconcile actual vs. guaranteed savings for each year of the contract for full transparency.
- **Financial Stability** ➤ With Trane, you will have a financially solid corporation to support this project throughout all stages – and well into the future as your needs evolve. The energy services marketplace is a dynamic and ever-changing environment. Trane has been in business for over 100 years and is part of the $15 billion Ingersoll Rand corporation. We have been here before and know what to expect – this will provide peace of mind and financial backing of a Fortune 500 global brand. Ingersoll Rand is the 12th oldest continuously listed company on the New York Stock Exchange (symbol: IR).

- **Customer Satisfaction** ➤ Our number one goal is complete customer satisfaction with our results. We measure customer satisfaction on every project to continuously improve our process and how we deliver energy services to the market to keep raising the bar of the customer experience over the long term. Over 90% of our customers who implement additional performance contracting project phases show their ongoing satisfaction by selecting Trane again for additional phases.

- [redacted]

- **Sustainable Technologies** ➤ No other company has the industry knowledge or access to the systems expertise of the Trane team. Our solutions are comprehensive, innovative, and incorporate the most current technology to allow you to manage your buildings more efficiently, effectively and increase staff productivity. Powered by Trane Intelligent Services (TIS), we use cloud-connected technology platforms for continuous commissioning to further optimize building and energy performance and make your buildings work better.

- **Trane Intelligent Services** ➤ Trane's advanced technology allows customers to make informed decisions about the impact of facilities on their mission. Through an offering called Trane Intelligent Services, we can help your staff obtain valuable data, understand it, and provide actionable insights to drive your business results. With ongoing support from our experts, your buildings will reach their full potential in terms of energy efficiency, reliability, and occupant comfort.

- **Choice of Products, Brands, Service Providers and Contractors** ➤ Although Trane manufactures innovative and award-winning HVAC and controls equipment; we can help you find the best equipment for your project – even if it is not a Trane product. In many cases, we have honored our customers' preferences by installing competitive systems and equipment. With our extensive industry knowledge as a manufacturer, we have the expertise to implement any system into the best overall design.

- **Safety is a Top Priority** ➤ Our parent company, Ingersoll Rand, enjoys an excellent Safety Experience Modification Rate (EMR) of 0.55, compared to the industry average of 1.00 – which means we have a much better safety record than most of our peers. Trane's EHS department requires strict compliance with the company's safety policies and all OSHA requirements. During implementation, all our subcontractors must hold weekly safety meetings to address any anticipated safety concerns or any outstanding safety issues.

- **World-Class Training Delivered Locally** ➤ Trane is able to customize training for our customer's employees locally. The sessions are geared to your areas of interest, and more extensive factory training from our

national Trane University staff is also available. Course instructors are certified by the International Association of Continuing Education and Training to offer Continuing Education Credits to your employees, where applicable. Take advantage of our comprehensive training programs to increase the HVAC and controls skills of your staff.

- **Incentives and Grant Writing Assistance** ➤ Trane will work closely with the agency and the Arkansas Energy Office to explore, identify and assist in writing grant applications for state and/or federal funding assistance for projects – as well as all available utility incentives. We have considerable experience navigating the wide array of federal, state and local grants, subsidies, and eligible utility incentives that can help offset the initial program cost.

4. State your permission for AEO to share your SOQ publicly (online, electronically, print) and acknowledge that your SOQ may be used by public entities to help select which ESCO to interview for EPC projects.

Trane shall allow the Arkansas Energy Office to share Trane's Statement of Qualifications publicly (online, electronically, print), to the extent that the purposes of such dissemination of Trane's Statement of Qualifications are to be used for one of the following purposes:

1. [redacted]

Proprietary and Confidential Information

Trane will comply with the policies, procedures, and rules as outlined in the AEPC Program Manual, Version 2.0. Trane permits the Arkansas Energy Office to share the Statement of Qualifications with other State and Local Agencies for the purpose of establishing a list of interviewees for Energy Performance Contracting projects. Trane reserves the right to protect our proprietary processes, tools, and work product, and confidential information from competitors. We have provided a redacted copy of Trane's statement of qualifications if this submission becomes subject of an FOIA request.

2. Company Overview

2a. History and Focus of Company

Describe the history and focus of the company, including:

a) Structure and evolution of the firm;

b) Number of years in energy-efficiency related business; and

c) Number of public energy-efficiency projects completed by your firm or key members of your firm over the past five years: number under $1 million in project cost; number over $1 million in project cost.

Trane's History Rooted in Boosting Efficiency of Buildings

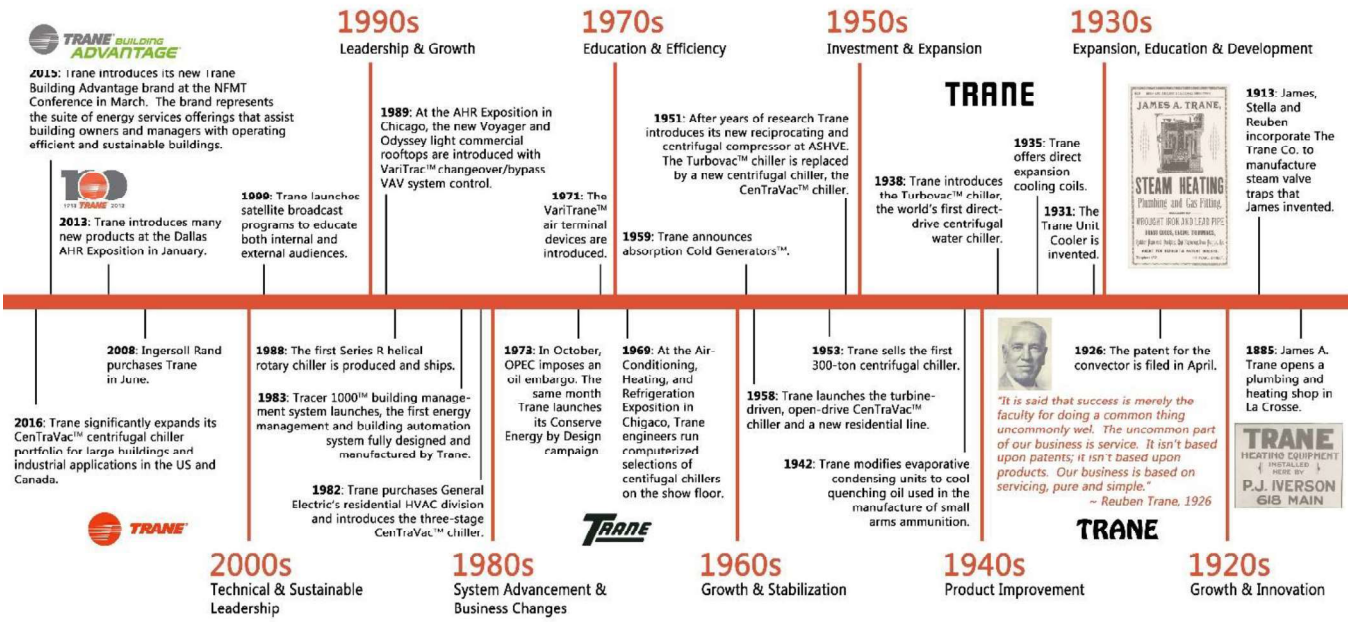
Trane was established in 1913 as a manufacturer of low-pressure heating systems. The idea of using technology to give people relief from summer heat was a radical and unproven idea when Trane became an air conditioning pioneer in 1931.Trane fundamentally changed the concept of air conditioning large buildings with the 1938 launch of Turbovac, the industry's first hermetic, centrifugal refrigeration machine. This was the beginning of a long chain of innovations leading to Trane's current CenTraVac™, the industry standard for large commercial air conditioning systems. This is the most energy-efficient system available anywhere for large buildings, earning Trane the "Best of the Best" Award from the U.S. Environmental Protection Agency.

With the acquisition of Sentinel Electronics in the late 1970s, Trane moved into the important building automation and management field. The company was the first to offer integrated controls for all of its products and became a leader in the field of energy management – a leadership position that continues to expand.

In 1995, we broadened our HVAC and control system expertise to provide a full range of energy services. Trane has implemented energy services projects involving more than [redacted] in facility upgrades. Today, Trane Building Advantage offers a broad range of energy solutions, including design and implementation of energy savings projects, retrofitting and improving existing systems, energy conservation, energy infrastructure outsourcing, power generation and energy supply, and risk management solutions.

In addition to reducing costs, we improve the reliability or expand the capability of your existing infrastructure and building systems. With a guaranteed energy cost savings contract, Trane will boost the energy efficiency of your buildings, reinforcing positive ROI business results.

Our engineers, project managers, and other key team members are highly skilled in all traditional energy and water efficiency measures, as well as a wide range of renewable solutions that can help protect you against fluctuating fossil fuel prices. We can even help optimize your energy supply contracts and power generation assets.



Corporate Structure

Today, Trane US, Inc. is wholly owned subsidiary of Ingersoll Rand, a publicly-traded company, (NYSE symbol: IR). Trane advances the quality of life by creating comfortable, sustainable, and efficient environments. Our people and our family of brands under Ingersoll Rand — include Club Car®, Ingersoll Rand®, Thermo King®, and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a $15 billion global business committed to a world of sustainable progress and enduring results. With a history dating back to 1871, Ingersoll Rand and its family of brands represent a proven history in construction and mining, industrial and commercial markets.

At Ingersoll Rand, we are committed to meeting the world's growing critical need for clean and comfortable air, safe and fresh food, energy efficiency, and sustainable business practices.

FACT

Trane U.S. Inc. is a wholly owned subsidiary of Ingersoll Rand, a $15.6 billion global leader whose 45,000 employees create comfortable, sustainable and efficient environments. Ingersoll Rand is the 16th oldest company on the New York Stock Exchange (symbol: IR).

Years in Energy-Efficiency Related Business

Trane began offering comprehensive energy services with a guarantee component in 1995. Trane has been NAESCO accredited as an Energy Services Company since 2004, and a DOE qualified Energy Services Company since 1998.

Five-Year Project History

[redacted]

Award-Winning Performance Contracting Projects

Several of Trane's performance contracting projects have won awards from external sources. Here are just a few:

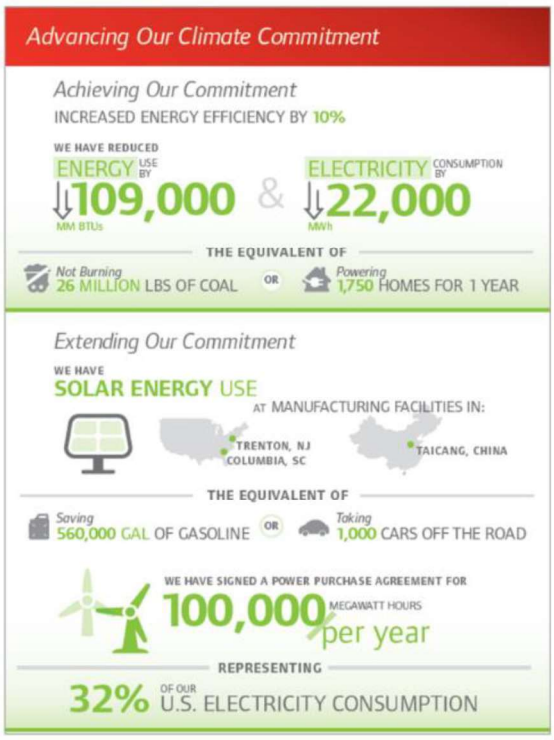
- University of Florida Reitz Union, Gainesville, FL
- The Urban Green Council bestowed this project with an EBie Award for the greatest percentage reduction in building energy use.
- Virginia Department of Motor Vehicles, Richmond, VA
- Our project was recognized by Governor Terry McAuliffe for its commitment to energy efficiency and sustainability and was presented with the Energy Efficiency Leader Award.
- Keyport Naval Undersea Warfare Center, Keyport, WA
- Navy Energy Project of the Year.
- Naval Air Station Oceana / Dam Neck Annex, Virginia Beach, VA
- Federal Energy Management Program Presidential Award for Leadership in Federal Energy Management.
- Virginia Department of Forensic Science, Richmond, VA
- The Department was recognized at the VCU Energy & Sustainability Conference as a leader in Energy and Sustainability for State Agencies, based on our performance contracting project.
- Fort Drum, NY
- This project received a U.S. Department of Energy ESPC Task Order awarded specifically for accomplishing energy savings.
- Jewish Eldercare Center, Montreal, QC
- This project won a first-place ASHRAE Region II Technology Award in the Existing Health Care Facilities category.

Industry and Sustainability Awards

In September 2018 and for the eighth consecutive year, Ingersoll Rand was named to the Dow Jones Sustainability World and North America Indices. Continued placement on this index series showcases our company's position as an economic, environmental, and social leader among peer companies. As well, as part of its global Climate Commitment, Ingersoll Rand committed to 35 percent reduction of the greenhouse gas (GHG) footprint from its own operations by 2020. To deliver on this goal, the company targeted a 10 percent increase in energy efficiency from a 2013 baseline – and achieved the goal two years ahead of schedule.

In January 2019, Ingersoll Rand was named to the 2018 Global 100 Most Sustainable Corporations Index by Corporate Knights, a Toronto based media and investment advisory company. Global 100 companies represent the top 2 percent in the world on sustainability performance. To determine the ranking, Corporate Knights analyzed 7,425 companies against global industry peers on a suite of 17 quantitative key performance indicators.

Sustainability Commitment



Unveiled in 2014, Ingersoll Rand's Climate Commitment pledges to deliver energy efficiency to our customers as well as to our own operations. As part of the commitment, we said we would achieve a 35-percent reduction of our greenhouse gas (GHG) footprint from our own operations by 2020. To meet the goal, we targeted a 10-percent increase in energy efficiency from a 2013 baseline.

Since then, we've worked hard to deliver on our Commitment, manufacturing more eco-friendly products and using less energy than we did in 2013. We have:

- Avoided 21 million metric tons of our customers' CO2e, which is the equivalent of avoiding 3.7 coal-fired power plants
- Reduced our own operational emissions by 45 percent, which achieved our Climate Commitment for operations, two years early
- Reduced energy intensity by 22 percent

On May 16, 2019, Ingersoll Rand was awarded the World Environment Center's (WEC) 35th annual Gold Medal for International Corporate Achievement in Sustainable Development in recognition of the progress we have made since we announced our 2020 sustainability targets in 2014. Our 2030 goals continue our momentum, and we will:

- Reduce customer carbon footprint by 1 gigaton (or 1 billion metric tons) CO2e – *equivalent to the annual emissions of Italy, France, and the United Kingdom combined.*
- Design systems for circularity (use and extract value for as long as possible, recover and regenerate materials at the end of the service life).
- Develop solutions that increase access to cooling, fresh food, water, and air.

Among the World's Most Admired Companies

In 2018, Ingersoll Rand was recognized for the sixth consecutive year by FORTUNE Magazine as one of the World's Most Admired Companies. Developed annually by FORTUNE Magazine and the Korn Ferry Hay Group, the World's Most Admired Companies list is the **definitive report card on corporate reputation**. To determine the best-regarded companies in 52 industries, Korn Ferry asked executives, directors, and analysts to rate enterprises in their industry on nine criteria – from investment value and quality of management and products to social responsibility and ability to attract talent.

Corporate Responsibility Honor

For the fourth consecutive year, **Corporate Responsibility (CR) Magazine** has named Ingersoll Rand to its annual 100 Best Corporate Citizens list. We achieved this prestigious ranking based on our disclosure and performance in seven key areas: climate change, employee relations, environmental, financial, governance, human rights, and philanthropy.

Trane has won many other awards in the HVAC industry and related to its commitment to sustainability. Here are a few:

Trane Industry Awards	Year
Trane Advantage VRFTM Chosen as 2014 Money-Saving Product winner by BUILDINGS Magazine	2014
Women's Choice Award by WomenCertified® for HVAC Systems	2012-2013
Partners of Choice Award by David Weekley Homes	2013
CSE Product of the Year (Silver award) Trace 700	2009
Trane joins EPA's Climate Leaders Program	2007
Building of America: Plaque of Honor	2007
Trane joins Clinton Climate Initiative	2007
CSE Product of the Year (Gold award) Precedent 15 SEER	2007
CSE Product of the Year (Gold award) System Analyzer™	2007
Frost & Sullivan's 'Emerging Company of the Year' building technologies excellence award (Trane India)	2007
EPA Best of the Best Stratospheric Ozone Award (for CenTraVac chiller)	2007
KLD Global Climate 100^{sm} Index	2007
Intel Certified Supplier Award	2006
Frost & Sullivan Product Innovation of the Year Award (for CDQ) and R&D 100 award (for CDQ)	2006
DOE Rebuild America Premier Allied Partner 2005	2005
China International Real Estate & Architech Fair: Trane – Best Model of China Construction Energy-Saving Series (English, Chinese)	2005
Today's Facility Management: Reader's Choice Award, HVAC/Indoor Air Quality	2003-2007
Sustainable Buildings Industry Council Best Sustainable Practice	2004
Examples of various environmentally-concerned patents awarded to Trane.	2003-2001
BTU Smackdown Award from Louisiana Department of Natural Resources (DNR)	2003
Commander in Chief's Special Recognition for Installation Excellence	2002
Sustainable Buildings Industry Council Best Practice Award - EarthWise™ System	2001
EPA ENERGY STAR® Gold Award Recipient	2000
Frost & Sullivan Market Engineering Product Innovation Award (for Integrated Comfort System)	1999
EPA Climate Protection Award – EarthWise™ CenTraVac®	1998
EPA ENERGY STAR® "Ally of the Year"	1998
Worldwide Wildlife Fund "Gifts to the Earth" Award	1998
GRI Partnership Award	1998
Fluid Management Award (American Machinist Magazine)	1998
"Green Seal" Certification – EarthWise™ CenTraVac®	1997
EPA Stratospheric Ozone Protection Award	1992

2b. Industry Accreditations and Memberships

Provide information on any accreditations and/or memberships in any industry organizations (e.g. Arkansas Advanced Energy Association (AAEA), Energy Services Coalition (ESC), National Association of Energy Service Companies (NAESCO)).

NAESCO Accreditation

Trane earned accreditation as an Energy Services Company (ESCO) on May 2004 from the National Association of Energy Services Companies (NAESCO) and has retained accreditation in each successive year. The NAESCO Accreditation is a testament to our core competencies in all technical and business aspects of performance contracting.

Companies seeking NAESCO-Accredited status must apply to a committee of industry experts who are unaffiliated with any particular ESCO or any other company under consideration for accreditation and undergo a rigorous examination of their end-to-end processes, core competencies, and business practices.

The committee looks at criteria including the following: the precise nature of the applicant's business; the range of measures and services offered to customers; the availability of a performance-based project approach; ethical business practice commitment; project engineering and design, financing, project management, operations, and maintenance capabilities; and the capability of verifying and monitoring energy cost savings.

To gain accreditation, ESCOs must demonstrate the technical and managerial competence to design and implement projects involving multiple technologies. ESCOs must also demonstrate the ability to provide the full range of services required for a comprehensive energy efficiency project, including:

- Energy Audits
- Design Engineering
- Providing or Arranging Project Financing
- Construction Management
- Operations and Maintenance of Energy Efficiency Technologies
- Commissioning
- Verifying Energy Savings

US Department of Energy Qualified

U.S. DEPARTMENT OF ENERGY
DOE Qualified ESCO

Trane is a qualified U.S. Department of Energy ESCO. We have managed ESPC programs for government agencies, including the Department of Energy, Department of State, Navy, Army, Air Force, and the General Services Administration.

[redacted] Under the scope of these projects, **we have saved the Government over [redacted] in energy, with an average reduction of [redacted] from the baseline**. Our projects have received multiple awards, including the Federal Energy Management Program Award of the Year and the Presidential Award for Leadership in Federal Energy Management.

Industry Associations

Trane understands the value and importance of active engagement in industry associations. A wide spectrum of industry and customer-centric association involvement provides Trane employees with educational and networking opportunities. In many instances, associations provide a platform to elevate that industry and its membership groups by developing and sharing best practices, technical developments, and providing educational opportunities. Trane is active in many national, regional, state, and local industry and customer-centric organizations:

ARKANSAS ADVANCED ENERGY ASSOCIATION

AAEA is dedicated to growing Arkansas's economy through expanded utilization of advanced energy technologies, including energy efficiency, demand response, natural gas electric generation, solar, wind, hydro, nuclear, electric vehicles, alternative fuels, and smart grid

ARKANSAS ASSOCIATION FOR HEALTHCARE ENGINEERING

Arkansas Association for Healthcare Engineering (AAHE) is an Affiliate Chapter of the American Society for Healthcare Engineering (ASHE)

AMERICAN SUBCONTRACTORS ASSOCIATION OF ARKANSAS

The ASA promotes and protects the rights and interest of subcontractors and suppliers by building strength in community through education, legislation, networking and professional growth

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS

ASHRAE is an American professional association seeking to advance heating, ventilation, air conditioning, and refrigeration systems design and construction. ASHRAE has more than 57,000 members in more than 132 countries worldwide.

BUILDING OWNERS AND MANAGERS ASSOCIATION

BOMA is a professional organization, its members include building owners, managers, developers, and providers of products and services needed to operate commercial properties.

ASSOCIATION OF ENERGY ENGINEERS

The association was founded in 1977 and is a nonprofit professional society whose stated mission is "to promote the scientific and educational interests of those engaged in the energy industry and to foster action for sustainable development

ENERGY SERVICES COALITION

ESC is a national nonprofit organization composed of a network of experts from a wide range of organizations working together at the state and local level to increase energy efficiency and building upgrades through energy savings performance contracting.

INTERNATIONAL FACILITY MANAGEMENT ASSOCIATION

The International Facility Management Association is a professional membership association for facility management professionals.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME is an American professional association that, in its own words, "promotes the art, science, and practice of multidisciplinary engineering and allied sciences."

As a leading provider of energy services and turnkey solutions, Trane possesses multiple accreditations and pre-qualifications from premier energy organizations such as NAESCO, ASHRAE, the Sustainable Buildings Industry Council, and the U.S. Green Building Council (USGBC). Trane is a qualified U.S. Department of Energy ESCO, and an active participant in the U.S. Environmental Protection Agency's Energy Star program.

These accreditations and pre-qualifications are important to your project because they demonstrate Trane's commitment to the energy solutions process – and provides assurance that we have the demonstrated competency and accepted industry practices to deliver successful projects.

Through our involvement in these organizations, we are helping to promote the development of quality standards in the energy efficiency business.

Local Associations & Professional Organizations

Trane is an active sponsor through participation in annual meetings, conventions, and sponsorship opportunities for the associations representing K-12 public schools, institutions of higher education, and local governments in Arkansas. Trane is well represented in the majority of professional organizations within the state. These include:

ARKANSAS ASSOCIATION OF COUNTIES

Association of Arkansas Counties

ARKANSAS ASSOCIATION OF FACILITY ADMINISTRATORS

AAFA Arkansas Chapter of APPA
Arkansas Association of Facilities Administrators

CENTRAL ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS

CAPPA APPA Central Region Since 1953

ARKANSAS ASSOCIATION OF EDUCATIONAL ADMINISTRATORS

aaea Arkansas Association of Educational Administrators

Which includes the Arkansas Association of School Business Officials and Arkansas School Plant Management Association

ARKANSAS COMMUNITY COLLEGES

ACC Arkansas Community Colleges

ARKANSAS MUNICIPAL LEAGUE

Arkansas Municipal League – Great Cities Make a Great State

U.S. Communities / OMNIA Partners

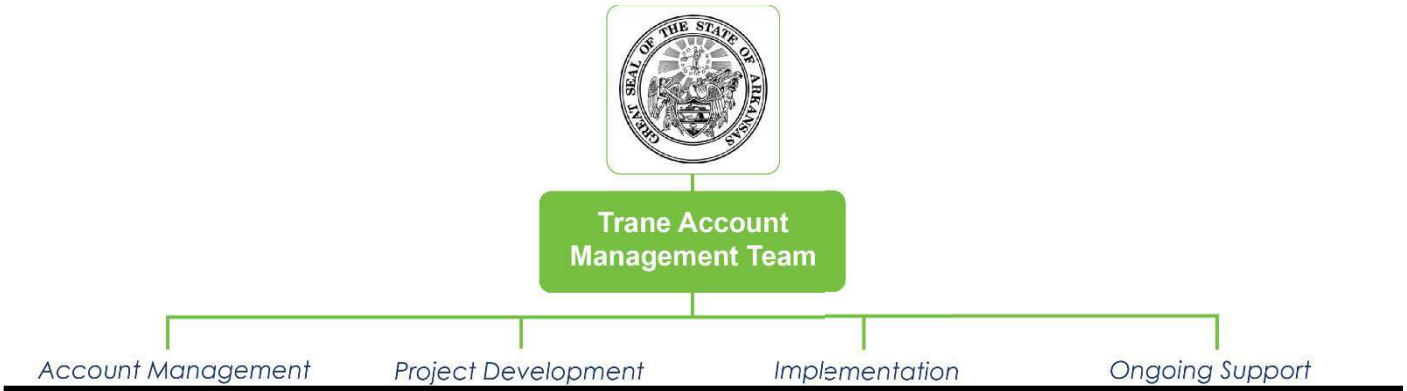
U.S. COMMUNITIES GOVERNMENT PURCHASING ALLIANCE

Since October 2015, Trane has been a valued partner of the U.S. Communities Government Purchasing Alliance – the leading national cooperative purchasing program. We propose extending that competitive and previously-negotiated pricing methodology to Arkansas government entities, which will leverage the purchasing power of over 90,000 public agencies and non-profit organizations.

3. Management and Staffing

3a. Project Management and Staffing

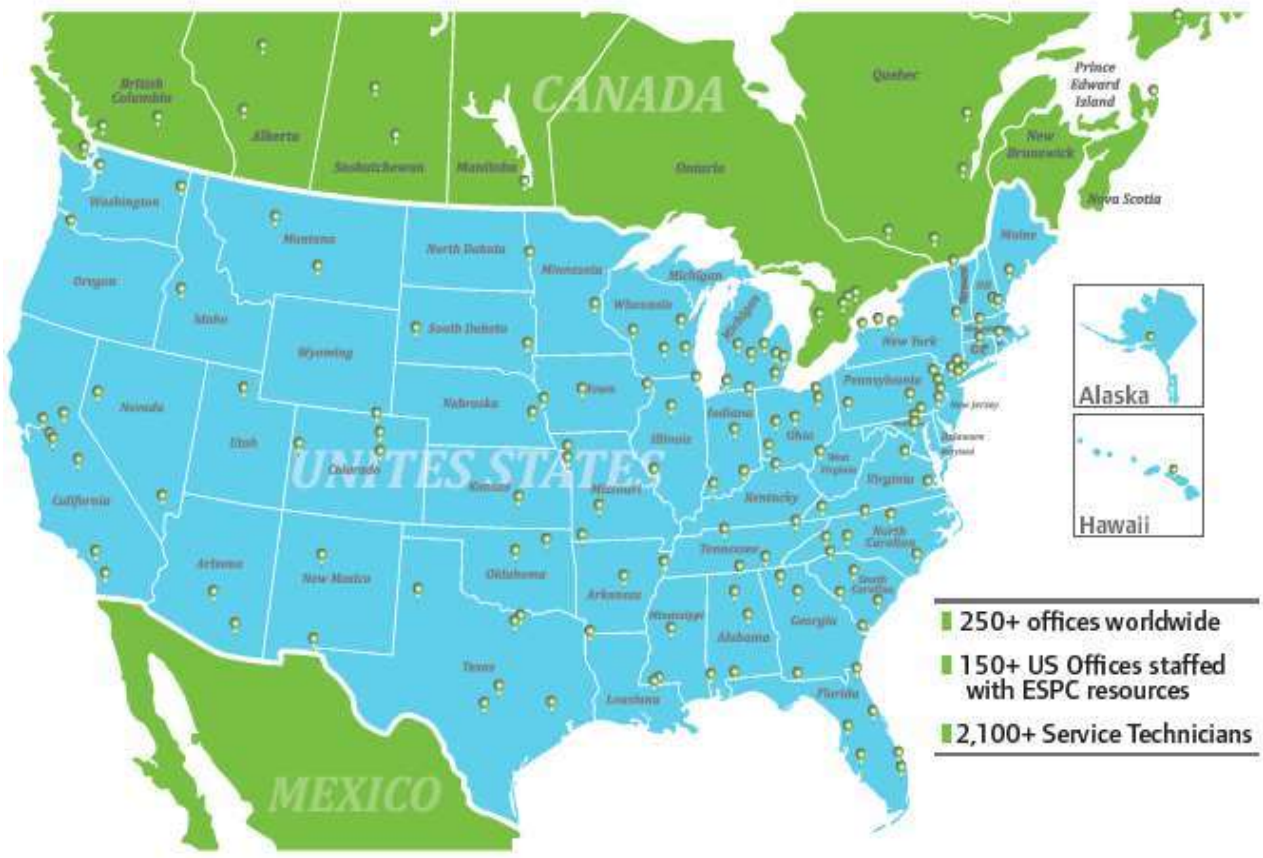
Organizational Structure. Show a typical/generic organization chart for implementing and managing a project.



Trane Energy Savings Performance Contract (ESPC) Resources

[redacted]d. Trane's local team benefits the Arkansas Energy Performance Contracting Program by:

- Knowledge of local labor work practices. Staffed with safety professionals who understand project sites and work environment
- Actively involved within the local community – volunteering, philanthropy, and fundraising
- Established relationships with local subcontractors, suppliers, and designers
- Understanding of area logistics (execution, engineering, deliveries, storage, hoisting)
- Reduced travel/lodging costs saves the government agency money
- Fast mobilization and response time when service is required, at any point in the process
- Proven success within other states through similar programs



- [redacted]

[redacted]s

We have three offices serving the state of Arkansas out of the Heartland & Tennessee/Mississippi Districts:

10303 Colonel Glenn Rd.
Little Rock, AR 72204

3904 Kelley Ave, Suite A.
Springdale, AR 72762

1775 Pyramid Place, Suite 100
Memphis, TN 38132

Trane's in-house project team consists of full-time employees who are available to devote up to 100% of their time as required throughout the life of the project. Furthermore, Trane has an Applications Engineering group comprised of industry experts who provide technical guidance and expertise – both internal and external to Trane – in the areas of system design, control integration, and product development.

b) Project Responsibility. In a single table, list your personnel pool of individuals who will potentially be assigned responsibility for each task and phase of a project under the AEPC Program. Also include any added expertise and capability of staff available through other branch offices, subcontracts, etc., that can provide back-up strengths to your firm. Include the office location for each individual, branch office or subcontractor.

Resumes for the key project team members listed in this table are provided in the appendix.

Name & Title	Qualifications & Experience	Selected Energy Services Projects
Account Management		
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Name & Title	Qualifications & Experience	Selected Energy Services Projects
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Project Development		
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Name & Title	Qualifications & Experience	Selected Energy Services Projects
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Construction Management		
[redacted]	[redacted]	[redacted]

Name & Title	Qualifications & Experience	Selected Energy Services Projects
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Name & Title	Qualifications & Experience	Selected Energy Services Projects
Ongoing Support Services		
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

c) Approach to Subcontracting. Describe the types of services (both professional and construction services) that your company offers in-house and the services typically offered through subcontractors.

Trane has in-house capabilities to self-perform all auditing, project development, design, energy engineering, project management, building automation installation, and measurement and verification. We will use qualified local mechanical engineers, structural engineers, electrical engineers, and partners as needed. A Trane Project Manager will oversee all installation and construction. This Project Manager will be the direct point of contact during implementation.

The following table shows which of the services identified above are provided directly by Trane through in-house resources, and which services are partially subcontracted:

	Trane In-House Services	Subcontracted Services
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Subcontractor Selection

The Trane Project Management and Construction Management team, together with the agency's personnel, will select all subcontractors for the project through an agreed-upon and predetermined selection process. Because Trane will retain all responsibility for the success of the project, any subcontractors hired for a project will be expected to meet Trane construction standards. We strive to use local contractors to leverage their background knowledge of the existing mechanical systems, specific knowledge of the client's facilities, local relationships, and other price advantages.

Here are the key steps in our subcontractor selection process:

- Trane will solicit a list of preferred subcontractors that have demonstrated a strong record of performance within your facilities. We will be cognizant of any targets that you may have for the project, including utilization of small and local businesses, minority-owned or women-owned business enterprises.
- All potential subcontractors will be evaluated and qualified to ensure adequate licensing, bonding, insurance, etc. They will also be screened based on safety ratings.
- Together with your team, Trane will finalize a list of firms that will be invited to bid on a specific scope of work packages.
- Subcontractor proposals will be reviewed jointly with your team, and final selection also made together and agreed upon by both of our organizations. Selection will be based on the overall value, subject to bid qualification of budget, schedule and resource requirements, to ensure all project delivery commitments can be met.
- Trane will then develop a detailed subcontracting plan for the management of trade subcontractors by our project managers and project field superintendents.

Subcontractor Evaluation Processes

Trane scrutinizes potential subcontractors on their success meeting the following criteria:

Cost	Cost should be considered, but not at the sacrifice of quality.
Subcontractor Reputation	What do your peers say about the subcontractor's job performance? What has been their past experience working on Trane projects?
Proper and Comprehensive Response to Your Proposal	Do the subcontractors respond to your technical proposal with understanding and comprehension?
Adequate Manpower Resources	Does the subcontractor have adequate manpower available to meet the schedule of this particular project? Will subcontractor have to pull resources from other subcontracts of trade organizations to meet project schedule?
Good Financial Condition	Does the subcontractor have required financial strength to complete the project on time?
Insurance and Bonding Abilities	Both illustrate the financial stability of the company. Obtain documentation regarding the subcontractor's insurance status, and be named as an additional insured on their policy.
Health & Safety Program	Make sure subcontractors have their own program and will not just rely on your organization for health and safety information, direction and correction.
Certifications / Licenses	Ensure that the subcontractors are properly certified or licensed to provide their services.
Quality Assurance Programs/Standard Operating Procedures	How does the subcontractor ensure quality services?
Community Relationship	Does the subcontractor have a relationship within the local community and with the client?

3b. Arkansas State Construction Requirements

Describe your firm's approach to complying with the Arkansas State licensing and labor requirements.

Trane has been operating in the State of Arkansas since 1959. Our management team thoroughly understands and abides by all state and local licensing and labor requirements. Please see Appendix for Trane's Arkansas Commercial Contractor's License.

Trane will obtain all necessary licenses, permits and regulatory approvals needed to commence work. Locally, our district offices keep up to date with all state and local municipal code requirements. As experts in the industry, we are very aware of mechanical and electrical code requirements. Frequently, we partner with firms whose expertise lends itself to a particular project and therefore benefit from their knowledge.

We will maintain full compliance with the Arkansas Code Annotated (ACA), specifically TITLE 8: ENVIRONMENTAL LAW and TITLE 11: LABOR AND INDUSTRIAL RELATIONS, covering these areas, as applicable, for any specific Energy Performance Contracting projects.

Trane is represented in the majority of professional organizations within the energy services, construction, electrical, and heating, ventilation, and air conditioning industry. ASHRAE, IFMA, AEE, and ASME are a few organizations in which Trane maintains a leadership position in the promotion and development of quality standards. We are intimately aware of the issues building owners are facing involving Environmental Control, Hazardous Waste, CFC refrigerants, Indoor Air Quality, acoustics, and energy management. The Trane field organization is trained extensively on the equipment, systems, and controls within buildings. Our expertise as engineers, manufacturers, installers, and service providers of virtually every component that contributes to a building's system makes us better positioned to deliver systems that perform and serve our customer's needs. This expertise allows us to help building owners and agencies manage their risk associated with agencies such as the EPA, CDC, OSHA, JCAHO, etc.

4. Company Financial Status

4a. Financial Soundness and Profitability

a) Financial Soundness. Provide a description of the financial soundness and expected stability of the company.

Financial Soundness

The excerpts below are from Ingersoll Rand's first-quarter 2019 results press release, issued April 30, 2019. All comparisons are against the first quarter of 2018 unless otherwise noted:

- Continuing earnings per share (EPS) of $0.82, up 61 percent; adjusted continuing EPS* of $0.89, up 27 percent
- Reported revenues up 6 percent; organic revenues* up 8 percent led by the Climate segment
- Operating margin expansion of 170 bps; adjusted operating margin* higher by 90 bps
- Book to bill* of 105 percent driving record backlog
- The company raises full-year 2019 EPS guidance to top end of prior range

**This news release contains non-GAAP financial measures. Definitions of the non-GAAP financial measures can be found in the footnotes of this news release. See the attached tables for additional details and reconciliations.*

b) Profitability: Provide a description of the company's profitability with supporting documentation covering the past three calendar years.

Profitability

The excerpt below from Ingersoll Rand's 2018 Form 10-K Annual Report shows key financial results for the past five calendar years:

ITEM 6. SELECTED FINANCIAL DATA

In millions, except per share amounts:

At and for the years ended December 31,	2018	2017	2016	2015	2014
Net revenues	$15,668.2	$14,197.6	$13,508.9	$13,300.7	$12,891.4
Net earnings (loss) attributable to Ingersoll-Rand plc ordinary shareholders:					
Continuing operations	1,359.1	1,328.0	1,443.3	688.9	897.0
Discontinued operations	(21.5)	(25.4)	32.9	(24.3)	34.7
Total assets	17,914.9	18,173.3	17,397.4	16,717.6	17,274.6
Total debt	4,091.3	4,064.0	4,070.2	4,217.8	4,200.5
Total Ingersoll-Rand plc shareholders' equity	7,022.7	7,140.3	6,643.8	5,816.7	5,987.4
Earnings (loss) per share attributable to Ingersoll-Rand plc ordinary shareholders:					
Basic:					
Continuing operations	$ 5.50	$ 5.21	$ 5.57	$ 2.60	$ 3.32
Discontinued operations	(0.09)	(0.10)	0.13	(0.09)	0.12
Diluted:					
Continuing operations	$ 5.43	$ 5.14	$ 5.52	$ 2.57	$ 3.27
Discontinued operations	(0.08)	(0.09)	0.13	(0.09)	0.13
Dividends declared per ordinary share	$ 1.96	$ 1.70	$ 1.36	$ 1.16	$ 1.00

c) Financial Report. ***Attach a financial report summary as an appendix, showing the company's most recent 12-month audited financials*** *including, at a minimum: Balance Sheet, Income Statement, Statement of Cash Flow, and Statement of Financial Conditions. Include the name, address, and telephone number of the preparer.*

Please see the Appendix for Ingersoll Rand's 2018 Form 10-K Annual Report.

The report was prepared by:

Price Waterhouse Coopers LLP
214 North Tryon Street, Suite 4200
Charlotte, NC 28202.
(704) 344 7500.

4b. Bonding

Include responses to the following:

- *Current bonding rating (maximum project size firm can bond)*

$50,000,000

- *Current bonding capacity*

$300,000,000

- *Amount or percentage of bonding capacity currently obligated*

50%

- *Current bonding rate*

Less than 1% of Contract Price

- *Confirmation that the company is bondable for 100% of a payment bond on a project*

Trane confirms this statement.

- *Confirmation that the company is bondable for 100% of a performance bond on a project*

Trane confirms this statement.

- *Letter from a licensed surety as evidence of ability to bond for payment and performance*

The required surety letter can be found in the Appendix.

Bonding History

CURRENT INFORMATION										Bonding History				
Name	Address	Telephone Number	AM Best Rating	Best's Financial Strength Capacity	Bonding Capacity		Bond Rate		Amount of bonding obligated as of 12/31/17					
					Single Project	Aggregate	Project Bonds (per project)	License Bonds (annual fee)						
Travelers Casualty and Surety Company of America	One Tower Square, Hartford, CT 06183	860-277-0111	A++	XV ($2 billion or greater)	$10mm	$350mm	$5 per $1,000 of contract price (up to 2 years)	$3.00 per $1,000	$202mm	Year	Average Dollar Value for Bonds Obtained	Largest Single Public Project Bond Amount	Largest Aggregate Construction Project Bond Amount	Claims Against Bonds
										2018				
										2017	$4.76mm	$29,275,987.00	$47.6mm	None
										2016	$2.71mm	$61,333,168.00	$100mm	None
										2015	$1.16mm	$30,346,986.00	$57mm	None
										2014	$439m	$5.5mm	$29.5mm	None
Liberty Mutual Insurance Company	175 Berkeley Street, Boston, MA 02116	212-719-7746	A	XV ($2 billion or greater)	$10mm	$100mm	$4.25 per $1,000 of contract price (up to 2 years)	$4.25 per $1,000	$57mm	Year	Average Dollar Value for Bonds Obtained	Largest Single Public Project Bond Amount	Largest Aggregate Construction Project Bond Amount	Claims Against Bonds
										2018				
										2017	$805,000	$4,083,000.00	$30.5mm	None
										2016	$918,500	$9,765,115.00	$46.7mm	None
										2015	$325m	$6,656,981.00	$25.3mm	None
										2014	$68m	$1.5mm	$3.3mm	None
Zurich American Insurance Company	1299 Zurich Way, Schaumburg, IL 60196-1056	212-553-3306	A+	XV ($2 billion or greater)	$100mm	$300mm	$5.00 per $1,000 of contract price (up to 2 years)	$4.50 per $1,000	$84mm	Year	Average Dollar Value for Bonds Obtained	Largest Single Public Project Bond Amount	Largest Aggregate Construction Project Bond Amount	Claims Against Bonds
										2018				
										2017	$692,550	$6,100,000.00	$42mm	None
										2016	$866,250	$12,861,628.00	$125mm	None
										2015	$2.56mm	$11,479,383.00	$96.8mm	None
										2014	$1.4mm	$14.9mm	$65.7mm	None

5. Marketing Approach

Briefly describe your firm's proposed approach to promoting and marketing the AEPC Program both in concert with AEO and in your individual marketing efforts for EPC.

Dedicated Comprehensive Solutions Team

Trane Commercial Little Rock has a dedicated account executive to promote and market Trane's Comprehensive Solutions and Energy Performance Contracting throughout the State of Arkansas.

Customer-Centric Sponsorships & Conventions

Staff working from both offices in Arkansas, Little Rock and Springdale, participate in several conventions and tradeshows throughout the year.

Our market plan includes sponsorship and participation in the *Arkansas Association of Educational Administrators, Arkansas Association of Healthcare Engineering, Arkansas Association of Facility Administrators, Arkansas Association of Counties, and several others.*

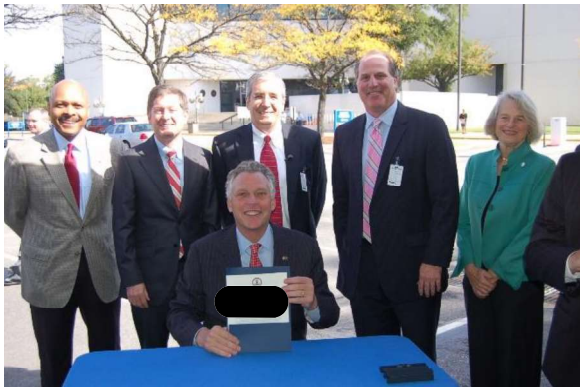
We use these networking opportunities to build relationships with existing and potential future customers and to promote our Comprehensive Solutions and Energy Performance Contracting offerings. We have, and will continue to promote the AEO's AEPC program in conjunction with these efforts.

Marketing Collateral

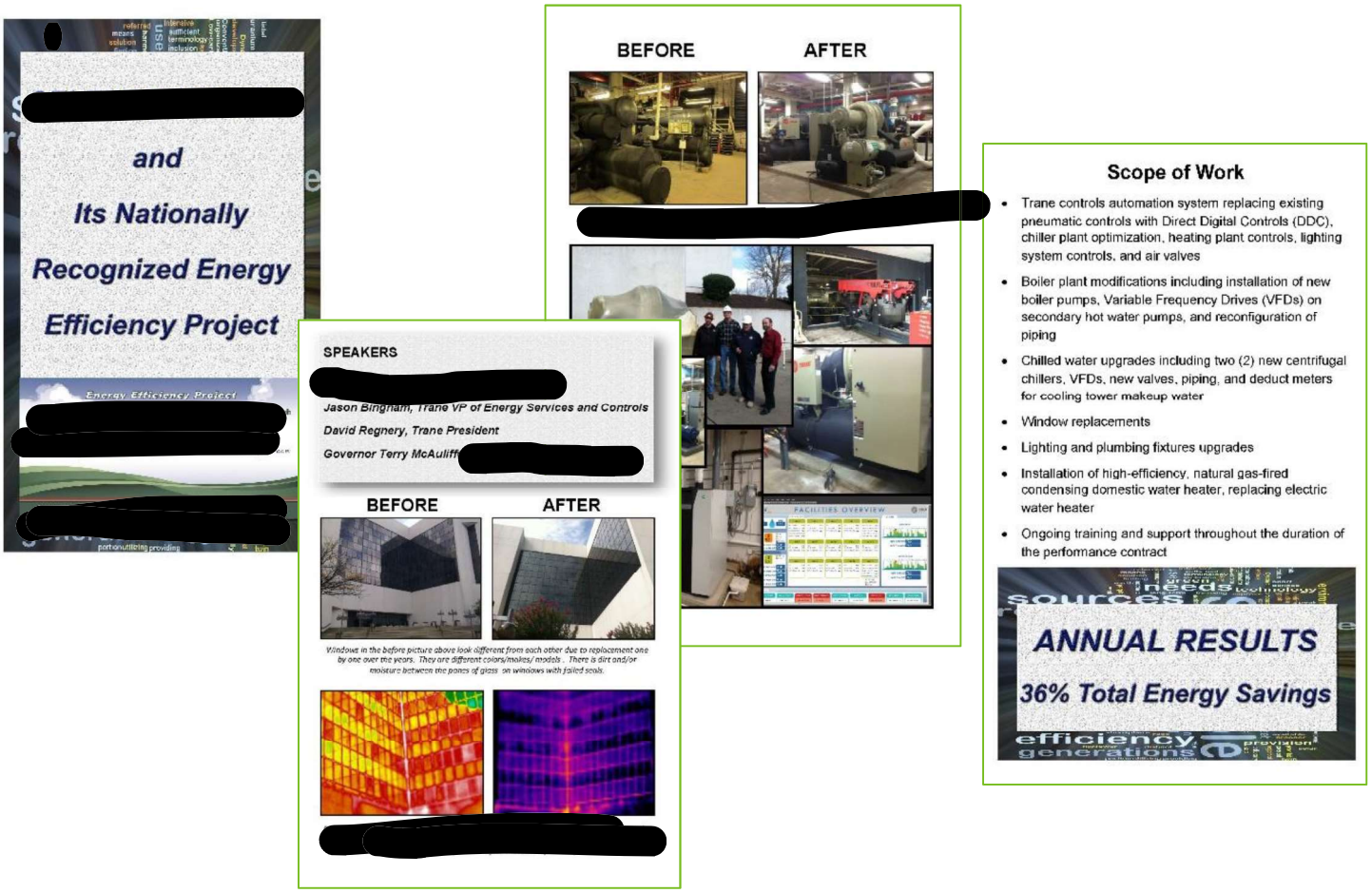
Trane has an abundance of marketing materials covering our Comprehensive Solutions and ESPC offerings. We have included several of these in the Appendix (Additional Information Not Required) section. Many of these collateral pieces can be customized by state, to include pertinent local and state information such as enabling legislation, local office information, etc.

Helping Our Clients Celebrate Success

Trane is passionate about celebrating and spreading the word about our customer's successes. Our corporate marketing team has extensive experience in publicizing successful projects utilizing a variety of mediums and activities. As we build our ESPC customer base and portfolio in Arkansas, we welcome the opportunity to include the AEO in these activities as appropriate.



In 2014, our marketing team planned an outstanding event at the [redacted]. The event celebrated a very successful performance contract that reduced [redacted]. Trane leadership was present, as well as the Commissioner of [redacted] was presented with the Trane Energy Efficiency Award, and Governor [redacted] signed an Executive Order encouraging state agencies to become more energy efficient by using performance contracting. Our marketing team put together a video of the event, which is included in the enclosed flash drive.



We have included several examples of other Marketing and PR events we have done for clients, in the Appendix (Additional Information Not Required) section.

6. Reporting Approach

Describe your firm's approach to providing signed copies of contracts and measurement and verification reports to AEO in a timely manner. In addition, describe how you will meet the requirements for providing project performance metrics, described in detail in the Program Manual.

Trane shall adhere to the requirements and responsibilities provided within the Arkansas Energy Performance Contracting Program Manual, including providing project performance metrics reports promptly. During the IGA, Trane shall document a detailed M&V plan including baseline modeling calculations, along with key variables and parameters, to be included and mutually accepted before executing the final Energy Performance Contract (EPC). The detailed M&V plan shall also document on-going responsibilities by the ESCO, Customer, and the Agency to fully meet the expectations of all parties and ensure the success of the project outcomes. Periodic M&V reports and annual reconciliation reports shall be reviewed with the customer with a copy provided to the AEO for recordkeeping and data tracking.

Trane has a long history of being technically thorough and accurate with our energy modeling calculations. This attention to detail proves out during the reporting phase. The vast majority of our performance contracting projects portfolio meet or exceed annual guaranteed savings targets year over year. During the development phase of a performance contracting project, we strive for the ideal balance between conservative savings projections (to minimize our risk) and sufficient scope (to maximize the customer's benefits from the improvements).

A dedicated Measurement and Verification (M&V) Energy Engineer is responsible for post-installation project monitoring, data collection, and the reporting of actual savings related to our guaranteed performance contract projects. The energy savings performance contract will specify the amount of guaranteed savings that the agency will achieve during each year of the contract term. Typically, Trane is obligated to prove that the guaranteed energy savings have been achieved each year, or reimburse the customer if actual energy savings in any year fall short of the guaranteed amount.

IPMVP Protocol

Trane adheres to the well-established International Performance Measurement and Verification Protocol (IPMVP) for confirming the benefits of the installed ECMs. The four IPMVP methods are summarized below. Together, we will select whichever Option proves to be the most prudent for each ECM after the project is fully developed.

IPMVP Protocol		Typical Uses for this Option
A	**Retrofit Isolation:** **Key Parameter Measurements**	This is applied to ECMs where there is one specific and key variable that best indicates the potential for energy savings.
The verification techniques for Option A determine energy savings by measuring the capacity or efficiency of a system before and after a retrofit, and multiplying the difference by an agreed-upon or "stipulated" factor, such as hours of operation or load on the system. Careful review of ECM design and installation ensures that stipulated values fairly represent the probable actual value.		

IPMVP Protocol		Typical Uses for this Option
B	**Retrofit Isolation: All Parameter Measurements**	Verification techniques for Option B are designed for projects where long-term continuous measurement of performance is desired.
Under Option B, individual loads are continuously monitored to determine performance, and this measured performance is compared with a baseline to determine savings. Option B M&V techniques provide long-term persistence data on ECM operation and performance. This data can be used to improve or optimize the operation of the equipment on a real-time basis, thereby improving the benefit of the retrofit. Option B also relies on the direct measurement of affected end uses.		
C	**Whole Facility**	Verification techniques for Option C determine savings by studying overall energy use in a facility and identifying the effects of energy projects from changes in overall energy use patterns.
This approach is intended for measurements of the whole-facility or specific meter baseline energy use, and measurements of whole-facility or specific meter Post-implementation (Post) energy use can be measured. The methodology to establish baseline and Post-parameter identification, modeling approach and baseline or model adjustments will be defined in the performance contract document. Periodic inspections of baseline energy usage, operating practices, facility equipment, and meter measurements will be necessary to verify the ongoing efficient operation of the equipment, systems, practices and facility, and savings attainment.		
D	**Calibrated Simulation**	Option D is intended for energy retrofits where calibrated simulation of baseline energy use and calibrated simulations of post-installation energy consumption are used to measure savings from the retrofit.
Option D can involve measurements of energy use both before and after the retrofit for specific equipment/systems or whole-building data for calibrating the simulation(s). Simulation routines must be demonstrated to adequately model actual energy performance measured in the facility. This option usually requires considerable skill in calibrated simulation. Energy use simulation is calibrated with hourly or monthly utility billing data and/or end-use metering.		

Measurement & Verification (M&V) Services

Trane complies with the International Performance Measurement & Verification Protocol (IPMVP) standards to validate every energy savings performance guarantee. Trane's approach to M&V services is designed to ensure that maximum energy savings are realized throughout the term of the agreement for the benefit of any agency. We will consult with the agency and AEO regarding the pros and cons of each option. The three options include:

- Point Source Method (IPMVP Option A or D)
- Continuous Metering Method (IPMVP Option B or C)
- Stipulated Method

Our accreditation by the National Association of Energy Service Companies (NAESCO) further demonstrates our proven process compliance and adherence to industry best practices. M&V will take place for each ECM installed, either on a continuous basis or at other agreed-upon validation intervals. We will follow a predetermined, mutually accepted contractual M&V methodology such as the industry-

standard Point Source Method or IPMVP Option A. The Point Source guarantee does not rely on the presence of utility-grade meters. As the name implies, energy is measured at the point, directly where it is consumed. For instance, the wattage consumption of a light bulb is measured directly at the light bulb or branch circuit serving only lighting. Typically, Trane provides building monitoring through control systems and visual inspections occurring during preventative repair and maintenance services. In each case, the goal is to ensure that systems and equipment are operating in the most efficient manner and to take corrective action as appropriate.

A sample M&V report is provided in the Appendix.

Performance Reporting

Additionally, as a global energy services provider, Trane has resources that extend beyond our local teams to further assist and provide world-class service to ensure and sustain energy performance metrics are maintained. A Trane Measurement & Verification Engineer shall be assigned to each project to monitor and measure performance at regular intervals and provide performance reports throughout each year of the energy savings guarantee. This ensures that any negative trends are identified and corrected so that actual savings match the guaranteed savings for a given year – or are higher than the guaranteed amount.

The difference between guaranteed and actual energy savings for each year of the guarantee period will be reconciled within 90 days following completion of the guarantee year. All savings generated by the project are yours to keep, even if they exceed the contractual guarantee.

In the unlikely event that actual savings for a given year are less than the guarantee for that year, Trane will issue a shortfall check, or upon agreement with the customer, Trane may provide services and/or product equal to the payment required to cover the difference.

7. Technical Approach

7a. Investment Grade Audit

Provide a description of the process your company uses to develop a typical audit in the types of facilities that will participate in the AEPC Program. Note any changes that will be made to comply with requirements of the AEPC Program. Provide a recent sample investment grade audit as an electronic attachment. The audit should be representative of a recent energy efficiency project in a government facility. Provide verification that the sample audit was conducted by the members of the company's team who will be participating in the AEPC Program.

An Investment Grade Audit for [redacted] is included in the Appendix as an electronic attachment to this RFQ response. All of the team members who worked on this IGA were part of the Trane Heartland District, headquartered in St. Louis, MO. The Trane Heartland District covers Arkansas, Missouri, Iowa, and parts of Illinois. All of the individuals will support energy efficiency projects in Arkansas.

Preliminary Audit

Trane will work closely with your team to develop a solution that addresses your top priorities, both financial and operational. We start by taking the time to understand your specific goals, as well as the associated challenges. Many organizations face obstacles such as aging infrastructure, making the most of limited funding, shortage of workforce to maintain buildings, indoor air quality concerns, and increasing technology demands. Our team will evaluate all of these factors so that we can develop a solution that aligns with your priorities.

[redacted]

Investment Grade Audit

The next step in the process is to drill deeper and either validate or modify the recommendations presented in the Preliminary Audit report. This is the Investment Grade Audit (IGA) – a systematic process that involves an engineering analysis of each building. *An IGA is sometimes referred to as a detailed energy audit.*

All mechanical, electrical and plumbing systems – as well as the building envelope – will be examined in more detail. Nameplate data is logged for major equipment. The audit process is designed to identify the current condition of each facility, the urgency of any improvements that may be needed, potential for structural envelope changes, the financial viability of each improvement measure, and potential operational efficiencies that can be captured.

The final Investment Grade Audit report will incorporate your feedback in order to describe a comprehensive energy management program while providing for necessary infrastructure improvements and alignment with your long-term goals.

During the IGA, Trane relies on the customer to provide the following:

- [redacted]

The following information is collected during the Investment Grade Audit:

IGA Categories	Examples of Information Collected
[redacted]	[redacted]

IGA Categories	Examples of Information Collected
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]

7b. Standards of Comfort and Construction Specifications

Provide a brief description of the standards of comfort the company generally uses for light levels, space temperatures, ventilation rates, etc. in the facilities intended for the AEPC Program and any flexibility for specific needs of the public entity.

Trane ensures standards of comfort are met according to state and local laws, as well as industry-accepted guidelines.

- **Temperature and Humidity:** Temperature and humidity standards will be as mandated by the minimum standards in the applicable Arkansas and local building codes. Trane utilizes American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standards for Comfort as industry-accepted guidelines.
- **Air Flow:** On airside systems affected by the work, the airflow would be balanced according to calculated requirements of respective space being served by the respective system. Measurements would be provided in a certified air balance report. In projects requiring major renovation and design, Trane will meet the requirements for temperature, humidity and outside air flow per American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 62.
- **Light Levels:** Levels, as determined by the Illuminating Engineers Society (IES), would be used as a minimum for establishing acceptable light levels. In areas affected by the currently calibrated light level, meters will be utilized in measurements. Measurements would be recorded and provided as as-built documents.
- **Water Flow:** Domestic water fixtures installed by Trane will exceed minimum state and federal standards for water flow and consumption. On chilled water systems, the flow would be set according to calculated requirements of equipment being served. Measurements would be provided in a certified water balance report.

All documentation shall be prepared and provided in the Operations and Maintenance (O&M) Manuals at the completion of the project. The commissioning plan will validate all standards outlined above.

7c. Baseline Calculation Methodology

Provide a brief description of the methodology normally used by the company to compute the baseline of energy and water use for a facility. Include a discussion of how the public entity is engaged for development of an agreement on the baseline.

Savings are calculated by comparing actual energy usage after project completion with a baseline – defined as the amount of energy the facility would have used if the project had not been implemented. The baseline is 12 months of pre-project utility consumption typically determined from the building's utility bills.

Building simulation software determines energy consumption using data such as: building square footage, building construction, building orientation, climate, occupancy rates, and schedules, lighting fixtures and schedules, equipment efficiencies and schedules, temperature setpoints, and utility rate structures. A baseline will then be established by using the information calculated in the building modeling and utility bill analysis.

Our approach to creating a baseline involves the following steps:

- Choose a baseline year
- Determine relevant variables for each facility
- Collect data on energy and water consumption for each facility
- Use regression analysis to normalize the data (if applicable)
- Compute changes in energy and water intensity from the baseline
- Determine total and new energy and water savings

Trane actively seeks the customer's participation during baseline development.

Wide Range of Energy Conservations Measures (ECMs)

The term "payback" refers to the number of years' worth of savings; it takes a particular energy conservation measure (ECM) to pay for itself compared to its installed cost. This is also stated as the ECM's return on investment (ROI). Performance contracting is an ideal means of including longer-payback measures in a project because the shorter-payback measures will justify their inclusion in a comprehensive bundle.

The table below shows the return on investment for a number of the most common facility improvements applicable to agencies:

Energy Conservation Measures (ECMs)	[redacted]	[redacted]	[redacted]
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Energy Conservation Measures (ECMs)	[redacted]	[redacted]	[redacted]
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7d. Adjustments to Baseline

Provide a brief discussion of typical factors that can impact the calculated baseline and the company's general approach to adjusting the calculated baseline if one or more of these factors are present. Include how the public entity is involved for agreement on any adjustments.

Some factors may change during the term of the performance period, including weather, physical modifications to the facility, variations in process loads, heat exchanger fouling, or changes to a facility's operating hours or usage. The baseline energy use is then adjusted up or down for these and other factors that are beyond Trane's control. The following are the most common reasons for baseline adjustments:

- **Building Utilization** ➤ The total number of building occupants is a variable that will be adjusted if the number of occupants rises above or drops below the baseline quantity. Building Occupancy Hours are the hours the building is occupied and/or equipment and lighting are utilized. These variables will be adjusted if the number of hours rises above or drops below the specified quantity. Buildings with energy management equipment will be monitored by Trane to verify hours of equipment operation. Buildings without energy management systems will require equipment operation logged by your facility personnel or by other arrangements with Trane.
- **Building Changes** ➤ The baseline will be adjusted to account for any building square footage changes, major remodeling, and addition of equipment or change in usage. These adjustments will be mutually agreed upon by the customer and Trane.
- **Equipment Loads** ➤ The equipment loads incorporated into the energy baseline developed during the Investment Grade Audit will be carefully measured and documented. If new equipment loads are added or existing loads are removed, a baseline adjustment may be necessary to account for the variation in energy consumption as a result of the change. The magnitude of any baseline adjustment is determined using sound engineering principles, including computer building simulation models.
- **Weather Variations** ➤ Weather corrections are made based on heating and cooling degree days to the baseline energy consumption. The Measurement and Verification (M&V) program utilizes the industry-accepted computer program Metrix to track the baseline energy consumption against the actual energy consumption after construction is complete. The Metrix program will create a regression equation using the historical utility bills for each baseline building meter and will compare the current energy usage and weather data to the baseline. The program accounts for statistical changes in the weather based on heating and cooling degree days.

The contract objective will be to adjust the baseline energy use up or down for factors beyond the control of Trane (e.g., building occupancy or weather) and adjust the post-installation energy use for Trane-controlled factors (e.g., maintenance of equipment efficiency).

Trane and the customer will work closely together to determine any adjustments to the baseline.

8. Company Scope of Services

Provide a brief description that highlights your firm's capabilities to provide services for the following items. Include as many as possible to validate the firm's capabilities.

8a. Energy Systems in Buildings

Wide Range of Energy Conservation Strategies

The table below shows the most common energy conservation measures that Trane explores when developing energy efficiency projects:

Cooling Systems

- Chiller Replacements
- Gas-Fired Centrifugal Chillers
- Cooling Towers
- Tower-Free Cooling
- Thermal Energy Storage
- Reclaim A.C. Heat Rejection
- Commercial Refrigeration
- Pumping Modifications
- Data Center Cooling
- Distributed Cooling
- Chiller-tower optimization
- Pressure-independent control valves

HVAC Systems

- Air Handler Replacements
- Variable Frequency Drives
- Variable Air Valve Systems
- High-Efficiency Motors
- Demand Control Ventilation
- Heat Recovery Systems
- Exhaust Fans
- Fan Coils
- Kitchen and Lab Hoods
- De-stratification Fans
- Convert Constant Flow to Variable Flow
- Variable Refrigerant Flow Systems

Heating Systems

- Boiler Replacements
- High-Efficiency Modular Boilers
- Condensing Boilers
- Geothermal Heat Pumps
- Water Source Heat Pumps
- Burner Stack Heat Reclaim
- Steam Trap Retrofits
- Steam Pressure Control
- Electric-to-Gas Conversion (fuel switching)
- Pumping Modifications
- Distributed Heating
- Pressure-independent Control Valves
- Fuel Switching

Controls Systems

- Building Automation Systems
- Pneumatic-to-Digital Conversion
- Multi-System Integration
- Demand Based Ventilation
- Demand Limiting
- Recommissioning and retro-commissioning
- Plug Loads
- Walk-in Cooler / Freezer Controls
- Air Compressors
- Trane Intelligent Services (building performance, energy assessment, remote monitoring, etc.)

Lighting Systems

- Interior LED Retrofits
- Exterior LED Retrofits
- Occupancy Sensors
- Lighting Controls
- Daylight Harvesting
- Street Light Retrofits
- Exit Signs
- High Bay Retrofits

Renewable Technologies

- Solar Photovoltaic (PV)
- Solar Thermal
- Cogeneration
- Landfill Gas
- Biomass
- Wind Turbines

Water Savings

- Low-Flow Toilets, Urinals and Faucets
- Sink Aerators / Flow Restrictors
- Flush Valve Fixture Commissioning
- Water and Sewage Treatment
- Dishwasher Retrofits / Replacements
- Side-stream Filtration for Cooling Towers
- Ozone Treatment for Laundry
- Rain Sensors for Irrigation Systems
- High-efficiency Domestic Water Heater
- Irrigation Wells

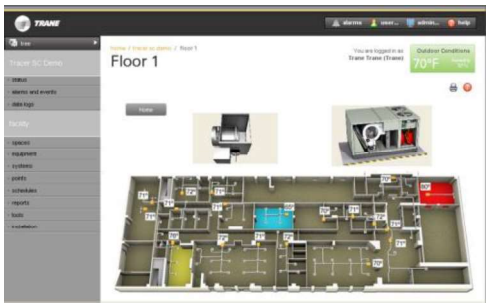
Other Solutions

- Central Plant Construction
- Central Plant Renovation
- Green Roofs
- Thin Film Solar Roofing
- Emergency Generators
- Fleet Management (conversion to compressed natural gas)
- Energy Supply Services (demand response, energy procurement, etc.)
- Power Factor Correction
- Pipe and Tank Insulation
- Building Envelope (windows, roofs, weather-stripping, window film, etc.)
- Energy Awareness and Behavior Modification

- *Central plants*

Trane has a significant amount of experience in the design and installation of new heating and cooling plants, and also with the upgrade of the operation of existing plants. We have taken the responsibility of building new central plants and district energy plants from concept to completion.

- *Control and building automation systems*



Trane is a top tier controls and building automation system manufacturer, specializing in automating building systems for efficiency and process improvement to deliver customer results. When engaged in an energy retrofit project, we regularly interface or expand Trane controls equipment, as well as other systems from a wide variety of providers. In 2018, we celebrated our 40th year as a controls and building automation system manufacturer.

- *Daylighting*

We have vast experience determining lighting loads, necessary lighting lumens, and building design to capture daylight.

- *Distributed generation*

Trane has experience with distributed energy resources (DERs), the interaction of the DER with the local utility, and ISO and management (i.e., smart/micro grid) of the DER.

- *Fuel switching*

We have experience in researching and determining the results of switching fuel from electric to natural gas for HVAC equipment, and diesel to clean fuels for vehicles and related projects. We have delivered fuel switching projects such as natural gas to heat pumps, and fuel oil to biomass.

- *Heating systems*

Trane has the technical ability to work with all types of central plant heating, boilers, domestic hot water systems, and related heating, ventilating and air conditioning (HVAC) systems.

- *Indoor air quality*

Trane's building automation systems have integrated air quality controls as a part of providing excellent indoor air quality. Improved technology has given us the ability to better monitor results.

- *Kitchens*

Trane brings proficiency in the design, replacement, and installation of major kitchen equipment.

- *Laboratories*

Trane is experienced in working in laboratories and clean rooms. We are proficient in the installation, monitoring, and maintenance of equipment that serves these critical spaces.

- *Laundry*

We have the capability to work with laundry equipment for facilities of all sizes.

- *Lighting systems (indoor and outdoor)*

Trane has the capability to provide design, selection, and implementation of indoor and outdoor lighting systems.

- *Renewables (geothermal solar-electric/thermal, wind, biomass)*

  - **Solar photovoltaic (PV):** Trane has experience in designing, installing, and operating solar photovoltaic systems. We leverage structured financing to pass the tax benefits onto a public entity.
  - **Solar thermal:** Trane has experience applying solar thermal hot water heating in applications such as preheating of domestic and heating hot water, as well as heating of pools.
  - **Geothermal:** Trane has experience in the design, installation, and operation of geothermal heat pump systems in both site-specific and district energy plant applications.
  - **Wind:** Trane has experience in the application of primarily small-scale wind electrical power generation with both public and private sector clients.
  - **Biomass:** Trane has experience in biomass through producing heating hot water and steam and generating electricity in facilities such as higher education campuses and state and local facilities.

- *Swimming pools and recreational facilities*

We have experience with HVAC, chlorine management, biochemical and chemical detection, lighting, water improvements, and related equipment.

- *Transportation (fleet fuel management, etc.)*

We have experience evaluating the effect of switching fuel from electric to natural gas for HVAC equipment, and diesel or petroleum to cleaner fuels for vehicles and other projects. Fleet fuel management is routinely investigated as part of our audit process.

- *Utility management*

Trane finds and resolves utility billing errors to ensure that each building has the best possible rates. Our experts also evaluate the energy-related performance of all buildings against internal and external benchmarks.

- *Ventilation systems*

We are experienced in implementing demand-based ventilation using carbon dioxide and carbon monoxide sensors, correcting deficient ventilation, and optimizing economizer control (dry bulb and enthalpy).

- *Water-consuming systems*

Trane has substantial experience with water consumption improvement measures. We are more than qualified to implement these measures, passing significant savings on to our customers.

8b. Project Development and Implementation

- *Investment Grade Energy Auditing (ASHRAE Level 3 audit)*

Trane performs Investment Grade Audits for the vast majority of energy savings performance contracts. [redacted] All three

projects included in Section 10: Project References have involved Investment Grade Audits or ASHRAE Level 3 audits.

- *Financing Knowledge: Municipal-tax-exempt lease purchase, Bonds, Self-Financed, other*

Trane consults with each client to find the most appropriate financing partner and best rates for financing their projects if needed. We investigate many financing alternatives and offer innovative solutions to help our customers fund major energy performance contracting projects.

- *Identification of and application for utility rebates*

Trane has a wealth of experience with navigating the array of federal, state and local grants and utility rebates that can be used to offset the cost of an energy efficiency project of this nature. Our detailed energy studies can form the foundation for these applications. Our team will provide insight and assistance for the availability of these alternative funding sources and will help you apply for them.

- *Commissioning of projects and retro-commissioning of existing buildings*

We offer a detailed commissioning plan to guarantee that all new or upgraded equipment works as intended. The same process is applied to retro-commissioning equipment in existing buildings and the equipment.

- *Identification of asbestos and other hazardous materials and abatement, recycling or disposal, as applicable*

Identification of hazardous materials that are reasonably identifiable, as well as recyclable materials, is an integral part of the development and planning for every energy conservation measure (ECM). Existing reports of building conditions will be solicited and reviewed for each ECM location and ECM scope of work. If hazardous materials are suspected, Trane will work with the customer to determine the appropriate approach.

A detailed material recycling plan will be developed specifically to the requirements for the ECMs to be implemented under the energy services project. Trane will develop a detailed procedure for the safe accumulation, handling, and disposal of hazardous materials – including fluorescent lamps that contain mercury, high-intensity discharge (HID) lamps (which include mercury vapor, metal halide, and high-pressure sodium lamps), ballasts which may contain PCBs, and other hazardous materials.

- *Construction*

Trane performs energy improvements such as lighting, water conservation, HVAC, central plants, building automation systems, and other renewable energy sources. In some cases, we employ subcontractors for installation tasks. We are completely responsible for the performance of subcontractors, as well as our installation personnel.

- *Project Constructability*

After Trane has been given the Notice to Proceed, the preliminary findings outlined in our proposal must be field-verified for constructability, which means identifying obstacles that could cause errors, delays or cost overruns. This field validation is then incorporated into our final construction design. A set of engineered stamped documents will be established for the project's scope of work.

- *System design engineering (mechanical, electrical, etc.)*

Highly experienced Trane personnel with credentials such as Professional Engineer (PE), Certified Energy Manager (CEM) and LEED Accredited Professional (LEED-AP) design the energy

conservation measures that are included in performance contracting projects. These include mechanical, electrical, water, and other systems.

- *Project/construction management*

Trane provides overall project management, including construction management, on all energy services projects.

- *Procurement, Bidding, Cost estimating*

Equipment required for implementation is procured with suppliers (often at discounted prices) or we use Trane equipment (with no contractor mark-ups). We work closely with our customers to develop purchasing strategies that meet their requirements.

8c. Support Services

- *Measurement and verification of savings*

Trane adheres to the well-established International Performance Measurement and Verification Protocol (IPMVP) for confirming the benefits of the installed ECMs.

- *Equipment warranties*

Trane actively manages the warranty for the entire project for equipment (regardless of manufacturer) and all work performed by Trane personnel or our subcontractors.

- *Calculation and reporting of emissions reductions*

Trane measurement and verification services encompass the calculation of greenhouse gas emissions reductions. The performance contracting project savings for each year can be translated as greenhouse gas emissions reductions through reputable conversion sources.

- *Marketing and promotion of a State or Federal EPC Program*

Trane has dedicated Public Relations resources/capabilities to support our customer projects with press releases, media outreach, awards, and speaking engagements.

- *Performance guarantee for every year of the financing term*

Trane's performance guarantee is for every year of the contracting term. More than 99% of our performance contracts generate savings that meet or exceed the guaranteed amount. Our customers retain every dollar of these windfall savings.

- *Insurance per contract requirements*

Trane shall continue to meet or exceed the minimum insurance requirements of the contract throughout the support services phase. A current Certificate of Insurance (See Appendix) shall be provided to the Customer detailing policy information, coverages, and limits including naming of "Additional Insureds" as applicable.

- *Application for an Energy Star Label Application for LEED certification*

Trane is very experienced in helping customers apply for Energy Star Label and LEED certification for their upgraded facilities. Our skilled professionals enter all relevant building data into the Energy Star® Target Finder Program and then review the targeted benchmarking score. The results from the Target Finder Program will help derive a Preliminary Energy Assessment Report (a.k.a. Benchmark Report) with several energy savings alternatives and their respective

Energy Star scores. These results will enable building owners to make informed energy efficiency upgrade decisions. Trane is a major supporter of the United States Green Building Council and has more than 600 LEED Accredited Professionals worldwide. These individuals know what it takes for a building to achieve LEED certification.

- *Training of maintenance staff and occupants*

Trane will develop product-specific training programs to guarantee that each employee understands the appropriate maintenance procedures and has the required skills to maintain new or upgraded equipment. Our reputation in the buildings market for education and training is second to none – and many competitors and engineering consultants come to Trane to learn more about various aspects of building systems, components, and their application.

- *Hazardous material handling*

If hazardous materials are suspected, Trane will work with the customer to determine the appropriate approach.

No hazardous materials will be generated, handled, or transported unless such generation, handling or transport complies with local, federal and/or international regulations. Regulations are designed to prevent accidents involving hazardous materials and minimize the impact of accidents that do occur. Regulations explain the requirements for properly classifying, describing, packaging, marking, labeling, and preparing hazardous material shipments for transportation, as well as the requirements for training employees involved in the handling and transport. Hazardous materials are classified based on their chemical and/or physical properties.

A firm licensed for handling and disposing of hazardous materials will be retained to develop a detailed procedure for the safe accumulation, handling and disposal of hazardous materials – including fluorescent lamps that contain mercury, high-intensity discharge (HID) lamps (which include mercury vapor, metal halide, and high-pressure sodium lamps), ballasts which may contain PCBs, and other hazardous materials.

- *Long-term maintenance services of energy systems*

In addition to offering full maintenance, operations, and repair of the equipment installed as part of an energy savings performance contract, Trane offers the highest quality support services for HVAC equipment. With three local offices servicing Arkansas, the local Trane team will be the single-point-of-contact not only throughout the implementation phase of any project but also for the life of the installed project. Each local Trane office has technicians, project managers, and all of the necessary support staff to continue to support all service needs for the term of the guarantee.

Trane has been in business for over 100 years. You can count on Trane to be around for long-term guarantees required for ongoing training, service, and maintenance of the systems installed.

9. Project History

In a single table, list ALL public energy efficiency projects developed and implemented by your locally represented firm or its key members within the past five (5) years; Indicate whether project was through your firm or a key member's previous firm. For the Project Timeline entry, include key milestone dates, such as year IGA signed, IGA completed, contract signed and/or construction completed.

The following public energy efficiency projects have all been implemented within the past five years. They have all been managed by Trane's Heartland and Tennessee/Mississippi Districts, which both cover Arkansas. The Heartland District covers Arkansas, Missouri, Iowa, and parts of Illinois. The Tennessee/Mississippi Districts cover a small part of NE Arkansas, Tennessee, and Mississippi. Many of the individuals who worked on these projects will support energy efficiency projects on behalf of Arkansas public entities.

Owner / Project Name	Facility Type	Your Company or Previous Firm	City & State	Project Size (Dollars)	Project Size (Square Feet)	Project Timeline	Assigned Staff
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Owner / Project Name	Facility Type	Your Company or Previous Firm	City & State	Project Size (Dollars)	Project Size (Square Feet)	Project Timeline	Assigned Staff
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Owner / Project Name	Facility Type	Your Company or Previous Firm	City & State	Project Size (Dollars)	Project Size (Square Feet)	Project Timeline	Assigned Staff
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Owner / Project Name	Facility Type	Your Company or Previous Firm	City & State	Project Size (Dollars)	Project Size (Square Feet)	Project Timeline	Assigned Staff
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10. Project References

Provide detailed information for a maximum of three (3) public energy efficiency projects your firm completed or were completed by members of their locally represented firm, which can be used for references. Expand on the information provided in the previous section to give details on individual projects. Include the following information on each project as a minimum (maximum five pages per project reference).

We are providing detailed information on the following three performance contracting projects, all of which involve members of the team we have assigned to your project:

[redacted]

Trane has completed this performance contracting project out of Arkansas, through the Trane Heartland District:

- [redacted]

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- [redacted]

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Project Performance: Projected, Guaranteed and Annual Savings

	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0	0	0
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Project Performance: Projected, Guaranteed and Annual Savings

	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
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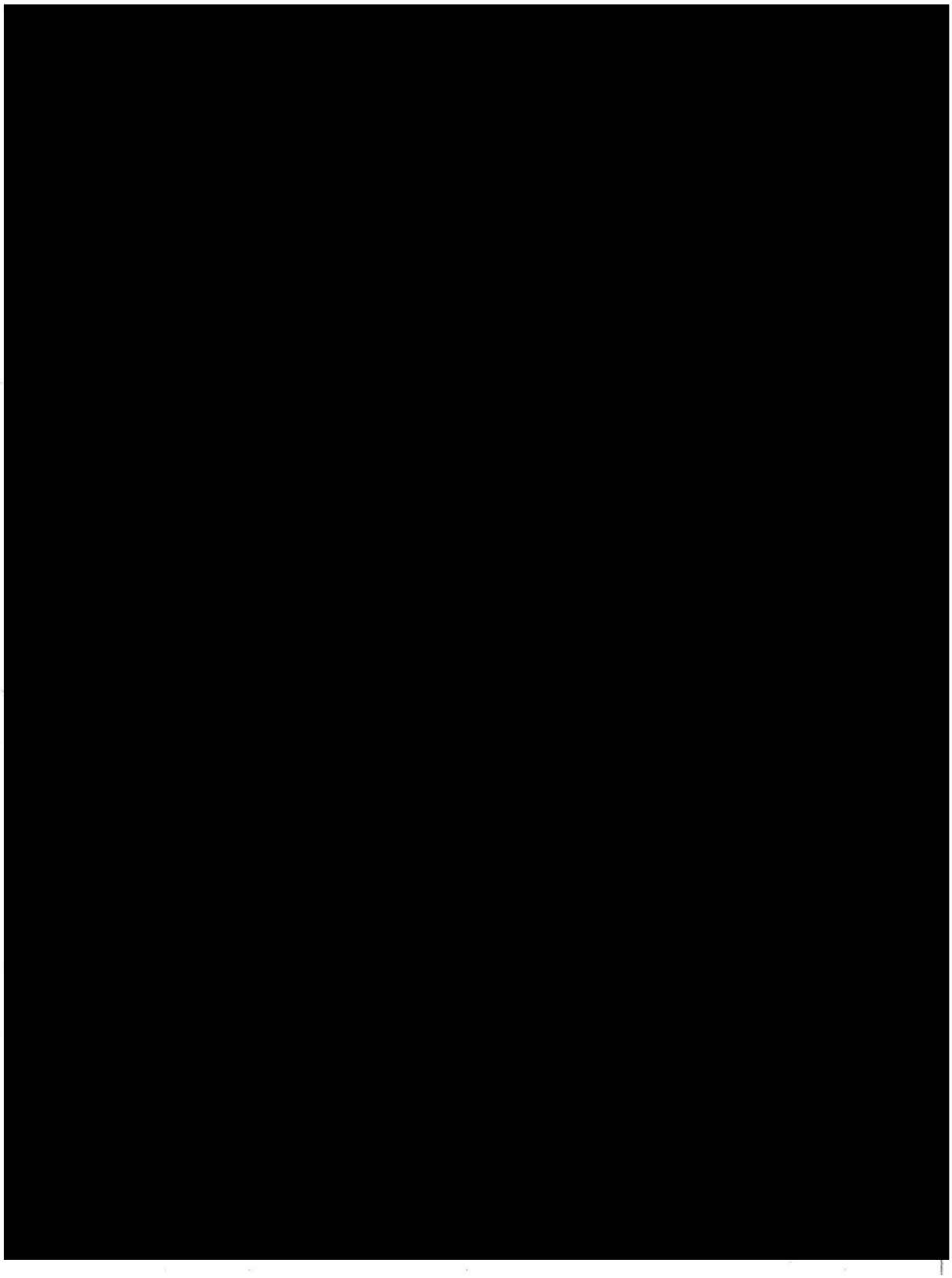

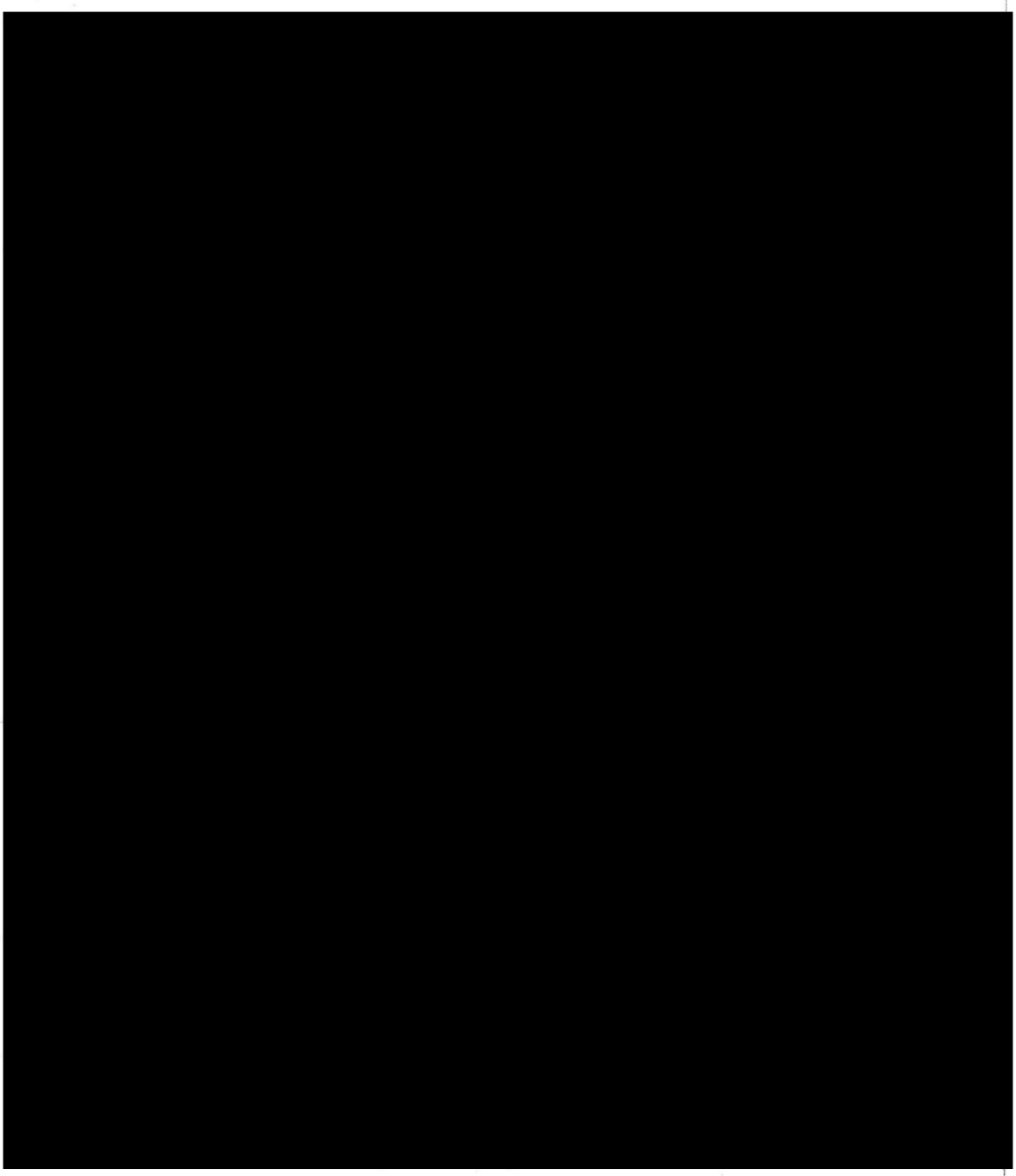

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Project Performance: Projected, Guaranteed and Annual Savings

	Projected	Guaranteed	Achieved				
			Year 1	Year 2	Year 3	Year 4	Year 5
Dollars	$[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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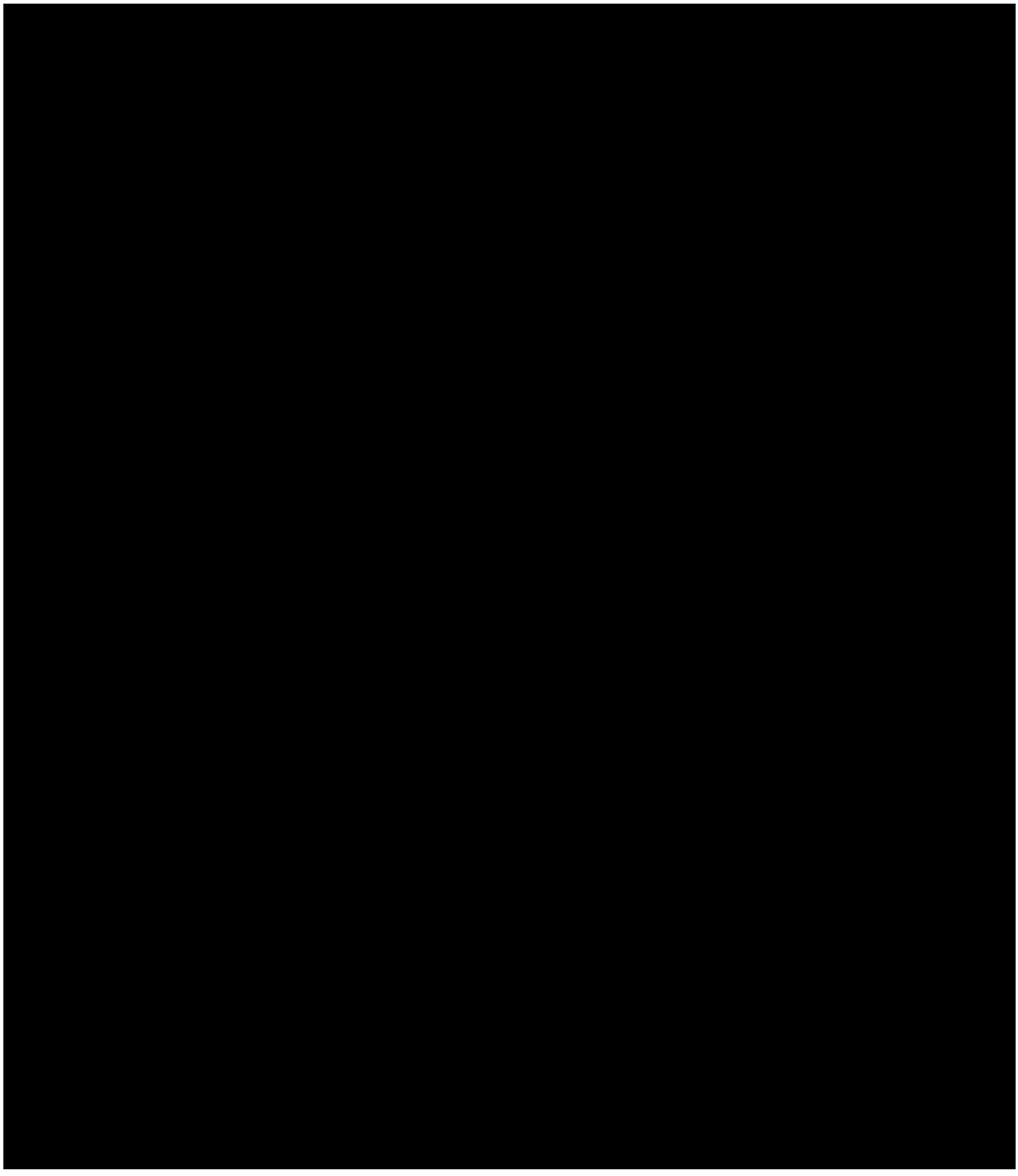


11. Cost and Pricing

11a. Investment Grade Audit (IGA) Costs

Please describe your company's approach to IGA Pricing.

The IGA is an audit that fulfills the obligations outlined in Exhibit A of the AEO IGA Contract. All ESCOs in the AEPC Program are required to use the AEO-developed IGA costs in their competitive proposals to public entities, and in no case shall the prices in the table be exceeded. The cost for the IGA is based on cost per square foot and is intended to be the market rate for an IGA.

The basic cost per square foot of the IGA to be used for typical buildings:

IGA Pricing per SF	Under 250 k SF	250 - 500 k SF	501 k + SF
	$0.20	$0.18	$0.15

Trane is in agreement with the table and pricing rates provided by the Arkansas Energy Office for the AEPC Program.

If a specific project includes systems or facilities other than typical buildings (e.g. waste water treatment, baseball fields, pools, street lighting, etc.), the ESCO may provide estimated additional costs in its IGA pricing proposal. The public entity and selected ESCO will negotiate final costs prior to execution of the IGA and Project Proposal contract.

If a specific project includes, but is not limited to, systems other than what is typical for most buildings, sophisticated renewable energy technologies, or intricate Energy Cost Savings Measure (ECM) which require more development, Trane agrees to work with both the Arkansas Energy Office and public entity to explain the additional costs. Trane agrees to provide estimated additional costs in its IGA pricing proposal. The public entity and Trane will negotiate final costs before the execution of the IGA and Project Proposal contract.

11b. Fuel Escalation

Please describe your company's approach to fuel escalation rates.

Trane complies with the International Performance Measurement & Verification Protocol (IPMVP) standards to validate the energy savings guarantee including an annual fuel escalation to account for energy price increases over the term. Since energy prices typically rise faster than the overall rate of inflation as tracked by the Consumer Price Index, or CPI, Trane establishes a mutually agreeable average annual escalation rate based on historical cost data from the local utility provider or the federal Energy Information Administration (EIA) database for a geographic region. An average annual escalation rate of 2-3% is typical for Midwest regions.

During the performance reporting and guarantee period, Trane validates Energy Savings using the mutually agreed to IPMVP methodologies for each energy conservation measure. Energy Cost Savings are calculated using the higher of the actual current utility rates or the Baseline Utility Rates adjusted for annual escalation. The Base Utility Rates are established during the Investment Grade Audit from the actual energy billing history and applicable rate tariffs. Energy Engineers use these energy consumption profiles to calculate a baseline energy model, for each building, and calibrate the baseline energy consumption to the actual utility bills.

11c. Equipment/Labor Cost Competition

Describe your company's process to solicit bids on equipment/labor or to ensure price/cost competition and the best value for the public entity.

During the Investment Grade Audit, Trane will work diligently with all subcontractors and equipment vendors to obtain the best pricing available for the customer. Trane will solicit multiple bids to ensure that procurement regulations are met. Trane also can provide the U.S. Communities competitive purchasing cooperative contract for the customer to use.

Trane is in a unique position in the industry as a manufacturer of equipment, controls, and a provider of a wide and comprehensive array of construction services, system installation capabilities, and ongoing maintenance and operating cost-saving services. For customers who may choose to work directly with Trane for these services on their project, they not only receive the benefit of direct support from the manufacturer throughout the entire warranty, service and maintenance period of the program, it also avoids the substantial cost of mark-ups that may be applied by outside firms (ESCOs) acting as brokers in the transaction.

Trane's transparent process objectively assesses different technology and financial options as a true partner with the customer. We focus on optimizing the customer's assets and finding the most cost-effective solutions under their direction. Trane provides the best opportunity for the customer to obtain the most cost competitive installations and improved project outcomes through single-source accountability.

11d. Open Book Pricing

Open book pricing is full disclosure by the contractor to the public entity and AEO of all costs and markups for materials, labor, and services received during the project development, implementation, construction, and performance period phases. Open book pricing requires that all costs, including itemized costs of subcontractors and vendors, are fully disclosed if requested by the public entity at any time during a project, not just at the closing of the project. Describe your company's approach to open book pricing and its method for maintaining cost accounting records on authorized work performed under actual costs for labor and material, or other basis requiring accounting records.

Trane agrees to follow the open book pricing parameters by fully disclosing all costs and markups at the final estimate. The approach to open book pricing is that after the final estimate is accepted, quarterly meetings would occur with the client to review and validate any and all costs on authorized work. Upon selection, Trane will work with the state agency to obtain cost percentage ranges. After the Investment Grade Audit, Trane will provide costs that fall into the pre-negotiated ranges. We will work with the outlined policies of the Arkansas Energy Office when looking at an AEPC project cost and pricing.

Trane uses open-book pricing with the belief that cost transparency is the key to ensuring our clients clearly understand the full project scope and its impact on their financial and operational results. As a leading global provider of indoor comfort systems, Trane can provide financial advantage to clients who choose to install the systems that Trane manufactures as part of the project. By involving the client early in the decision-making process – from choosing equipment to selecting subcontractors – Trane maintains the transparency that allows clients to make the choices that best suit their specific needs.

To ensure that each client is receiving the best value, Trane presents an open book project pricing proposal. We do this by providing linked spreadsheets that represent a breakdown of project costs, pricing, mark-ups, pro forma detail, savings, and termination implications.

We have considerable experience with open-book pricing through the extensive work that we perform for state and local government public agencies. Also, as an ESCO authorized to serve federal government clients, Trane has completed many projects that incorporate the federal ESCO open book pricing methodology.

11e. Project Cost and Pricing Elements

Once the public entity has selected a project scope, estimated project costs and open-book pricing elements will be negotiated and become part of the final IGA contract. The pricing table format to be used is provided in Exhibit C, "AEPC Investment Grade Audit Contract.

For the purposes of the IGA contract, an ESCO may provide estimated cost percentage ranges for each of the elements. Once the IGA is completed and final scope is developed, the ESCO will provide true costs and for which each category must fall within the proposed percentage range. ESCOs agree to use the cost and pricing values when developing a final IGA and Project Proposal

Trane agrees to follow the AEPC Rules and Regulations. Once the public entity has selected a project scope, the estimated project costs and open-book pricing elements will be negotiated and become part of the final EPC proposal and contract.

For the IGA contract, Trane shall provide estimated cost percentage ranges for each of the elements. Once the IGA is completed, and the final scope is developed, Trane agrees to use the cost and pricing values when developing a final IGA and EPC Project Proposal. Trane also agrees to submit estimated cost percentages for design, pre-construction services, other pre-construction costs, permits, insurance, overhead, and contingency to AEO to review, with explanations as needed.

Best Value

We fully understand and respect the need for our clients to implement competitive price/cost projects that demonstrate fiscal responsibility. We will create our "best value" proposition to help realize that need through our equipment/labor purchase approach. We can help our clients eliminate unnecessary layers of overhead and markups, which equates to more dollars available for their project. This process helps our clients gain the greatest benefits during the project construction phase, as well as during warranty and throughout the life of the energy systems.

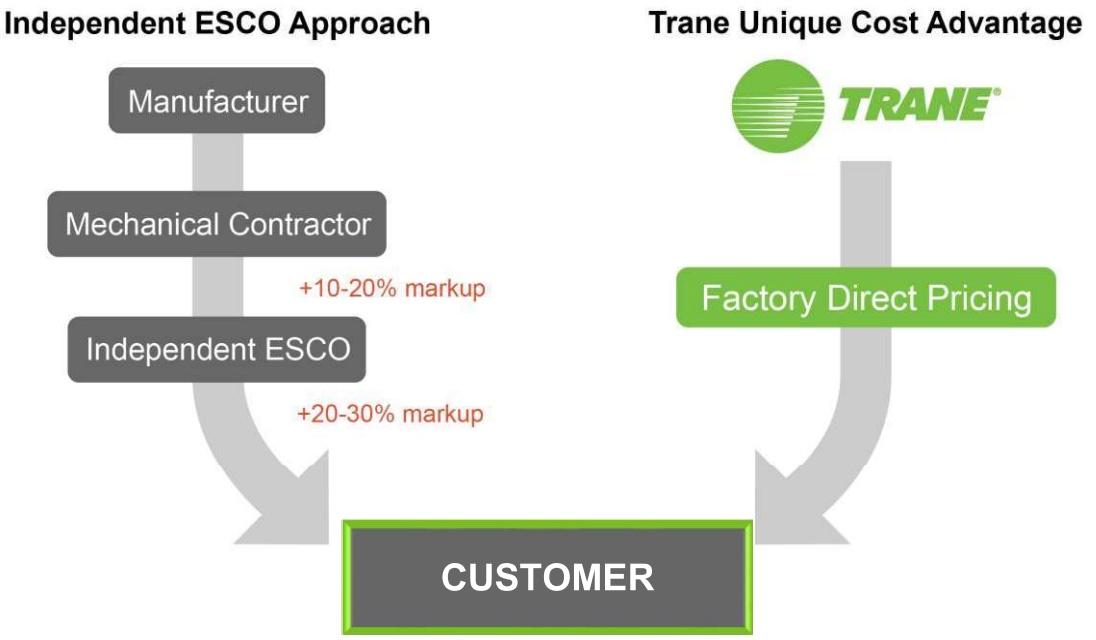
Many independent and/or third-party Energy Service Companies (ESCOs), sometimes referred to as Project Management ESCOs, primarily provide value to their clients on the upfront design and project management. Thus, in many cases, the entire project scope is subcontracted, then marked up by the ESCO and *then* provided to the client.

The difference with Trane's approach is that you can obtain a major portion of the project scope directly from Trane **without third-party ESCO markups.** Trane directly provides design and project management just like a third-party ESCO, but clients can avoid the multiple layers of markups on a large portion of the project scope through direct purchase of equipment, services, labor, and controls.

Trane remains labor-neutral on mechanical, electrical, and plumbing installations, which creates more value for our clients. Trane has found that labor prices vary more than any other component of our performance contracts. Once we have completed engineering, we competitively bid our mechanical, electrical, and plumbing labor to make sure our clients get the best value.

In regards to Equipment and/or labor cost completion, we have used GSA and cooperative purchasing guidelines in the past to ensure we solicit competitive bids from subcontractors. This paired with our approach to soliciting sub-contractor(s) provides our clients with the best value for the project.

The visual below illustrates the cost advantages of Trane's best value approach.



TRANE, LET'S GO BEYOND™…

Beyond HVAC. Beyond Lighting. Beyond Solar, Beyond Renewables, Beyond Digital Automation. Every building has a purpose, but inside the buildings' walls are the people working, learning, teaching, playing, exploring, and innovating.

Trane knows buildings have hidden potential because we speak their language and interpret a building's data to gain insight into how to manage energy efficiency and building performance. At Trane, we believe we can further optimize and transform buildings into more sustainable assets with a long-term energy strategy to manage current challenges while improving to serve the next generation of Arkansas residents. With Trane, we won't stop at renewables, lightings, HVAC, and digital automation… ***Let's go Beyond***.

APPENDIX – REQUIRED FORMS

Equal Opportunity Policy

Ingersoll Rand's Equal Opportunity Policy is summarized on pages that follow, along with a copy of the Ingersoll Rand Global Human Rights Policy.

DFA – Arkansas (Illegal Immigration Employment)

DFA Illegal Immigrant Contractor Disclosure Certification is on the pages that follow.

E.O. 98-04 (Governor's Executive Order)

Contract and Grant Disclosure and Certification Form is on the pages that follow.

Surety Letter as Evidence of Ability to Bond for Payment and Performance

The required surety letter is on the pages that follow.

Certificate of Insurance

Certificate of Insurance is on the pages that follow.

Arkansas Contracting License

Trane's Commercial Contractors certification to provide services in the State of Arkansas. We have been awarded License No. 0035080420. A copy of the license is provided on the pages that follow.

Firm's Annual Financial Report Summary

2018 Ingersoll Rand Annual Report Summary is included on the pages that follow (the complete annual report is included in the enclosed flash drive in electronic format).

Resumes – Trane Team

A copy of the Trane Team resumes is provided on the pages that follow.

Sample Investment Grade Audit Report

A sample Investment Grade Audit from the [redacted] has been included in the pages that follow.

Sample M&V Report

A sample M&V from [redacted] has been included on the pages that follow.

APPENDIX – ADDITIONAL ITEMS

Supplemental info to RFQ

Additional information to supplement the RFQ is provided on the pages that follow.

NAESCO Accreditation

June 2018 Certificate of Accreditation is provided on the pages that follow.

Sustainability Commitment

Our sustainability commitment is provided on the pages that follow.

Marketing Information

Sample marketing items are provided on the pages that follow.