



2023 ESG Brochure

Environment, Social and Governance



CEO MESSAGE

Sustainability Through Innovation



Dear stakeholders,

For more than 40 years, Advanced Energy has developed highly differentiated power delivery solutions for a wide variety of high technology applications. Our success is built on technology leadership and manufacturing excellence, both of which depend on talented, motivated employees to drive the improvements necessary to sustain our competitive edge.

Innovation in the power conversion world is all about better efficiency, superior power density and the ability to develop tailored solutions for highly demanding applications. Nearly every new Advanced Energy power delivery solution replaces a less efficient product. That's good for our customers and good for the environment.

We build nearly all of our products in-house, at Advanced Energy factories in Asia, North America and Europe. In-house manufacturing allows us to better control overall

product quality and generate sufficient economies of scale. Our factories are “light manufacturing” operations with a strong focus on yield improvement, waste reduction and employee health and safety.

At Advanced Energy, we believe that it makes good business sense to foster an inclusive culture where all employees feel empowered to drive improvements and innovations.

We believe that AE's strong corporate governance practices are consistent with our rigorous Codes of Conduct, which delineates high ethical standards for employees, suppliers and partners.

Thanks for your interest in Advanced Energy, and I encourage you to review our ESG brochure.

Steve Kelley
President and Chief Executive Officer

ABOUT ADVANCED ENERGY

Precision. Power. Performance. Trust.

Advanced Energy designs and manufactures highly engineered precision power conversion, measurement and control solutions for mission-critical applications and processes. Our products enable customer innovation in complex applications for a wide range of markets:



Semiconductor Equipment



Data Center Computing



Industrial and Medical



Telecom and Networking

With engineering know-how and responsive service and support for customers around the globe, the company builds collaborative partnerships to meet technology advances, propels growth of its customers and innovates the future of power.





ABOUT ADVANCED ENERGY

Company Overview

OUR VISION

Drive sustainable growth as the recognized world leader and trusted partner in precision power technology and applications.

OUR MISSION

Enable customer innovation by delivering highly engineered, applications-critical, precision power and control solutions.

OUR STRATEGY

Grow by delivering proprietary products with differentiated performance and delivered value that enable our customers' success in rewarding markets.

ADVANCED ENERGY AT A GLANCE



1981
Founded



~12,000
Global Employees



2,200+
Engineers and FAEs



60+
Locations
Worldwide



\$1.85B
2022 Revenue
Nasdaq: AEIS



700+
Patents
Globally

Advanced Energy is uniquely positioned to deliver growth and shareholder value based on our strategy, market growth drivers, track record and proprietary portfolio of highly engineered power conversion, measurement and control solutions. Within the broader power conversion market, we serve the highly valued precision power market which represents a combined served available market (SAM) of \$10.5 billion. This SAM consists of four market verticals driven by the data economy. Our diverse exposure across these different verticals provides less volatility while allowing us to capture meaningful growth opportunities.



Corporate Commitments

CORPORATE COMMITMENTS

Our Philosophy

At Advanced Energy, we incorporate ESG responsibility across our business with the same focus and dedication we approach all our initiatives. Our results and ongoing efforts related to ESG are an integral part of our commitment to deliver long-term value to our global stakeholders. This commitment is driven from the highest levels of the Company, including our Chief Executive Officer, executive management team and Board of Directors. We look forward to making a difference in the markets and communities we serve.

In 2022, we launched our ESG Working Group. This group is responsible for shaping our ESG approach and advancing our ESG program. We conduct gap analyses to actively pursue improvements in collaboration with our customers, suppliers and partners.



ENVIRONMENT

- Inventing Energy Efficient Products
- Implementing Energy Efficient Operations
- Reducing Waste



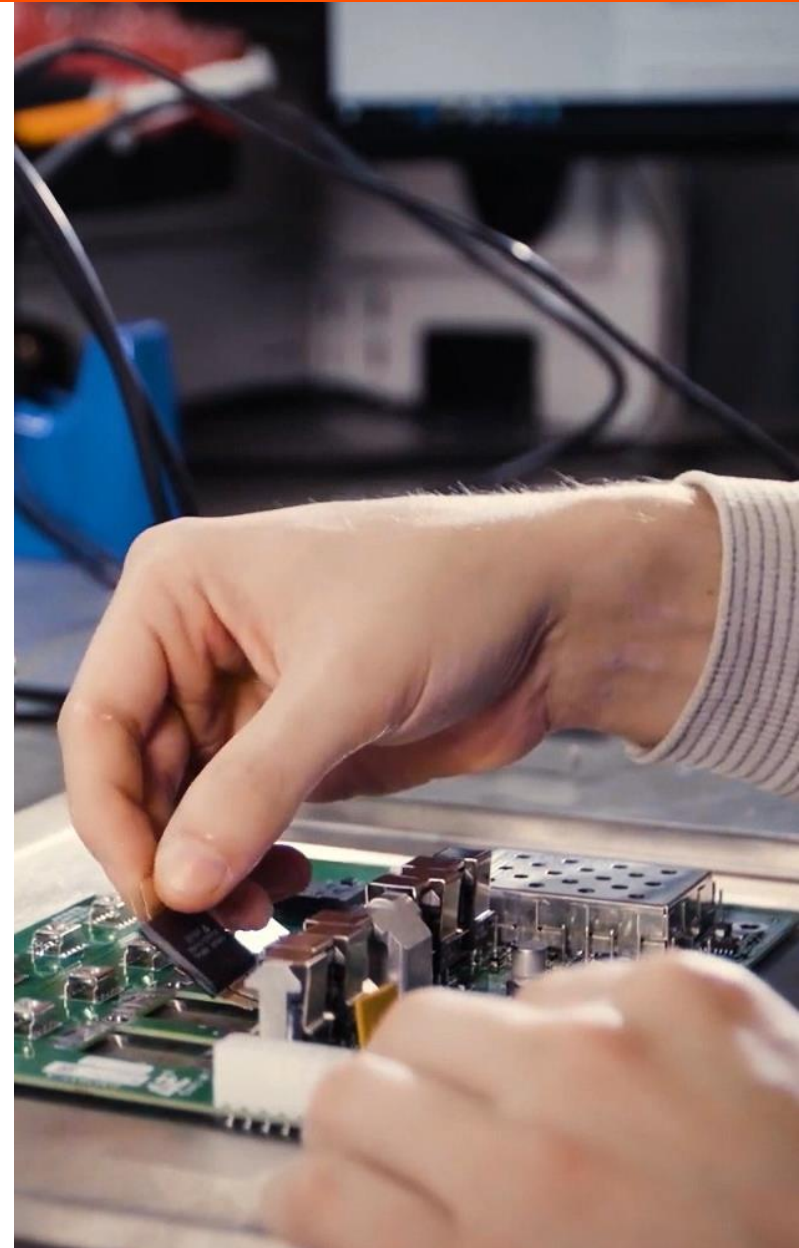
SOCIAL

- Empowering Our People
- Engaging with Our Communities



GOVERNANCE

- Enabling Effective Management
- Enhancing Transparency



CORPORATE COMMITMENTS

Recent Highlights

COMMITMENTS

2022

Advanced Energy launched the ESG Working Group in 2022. The group is responsible for ESG approach and advancing our ESG program

A

Advanced Energy received an MSCI ESG Rating of A (on a scale of AAA-CCC) as of 2023

ENVIRONMENT

98%

Advanced Energy launched power conversion products for energy-intensive data center computing applications featuring industry-leading efficiency up to 98%

86% Total Waste Diversion Rate in our Asia Pacific factories

~35%

From 2014 to 2022, our factories in China and the Philippines reduced Scope 2 CO₂ emissions by 23,941 metric tonnes, a ~35% reduction from the base year.

SOCIAL

~45%

Women comprise almost half of our global workforce

>85%

of employees are proud to work at AE based on 2022 employee survey

0.45 Total Recordable Incident Rate (TRIR) and 0.26 Loss Time Incidence Rate (LTIR)

345 Employees participated in our leadership development program in 2022

GOVERNANCE

90%

of our board members are independent, non-executive directors

30% of our Board of Directors are women

4.6 years of average tenure for Board of Directors (as of May 1, 2023)

2 Women leaders added to Advanced Energy's Executive Leadership Team in 2022



Environment

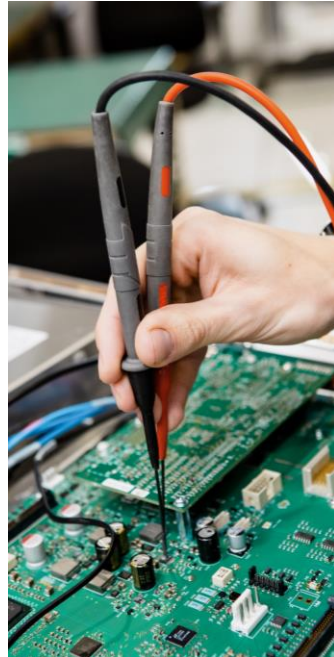
ENVIRONMENT

Sustainability Through Innovation



Advanced Energy is committed to minimizing our impact on the environment. We strive to reduce waste in our operations and conserve natural resources.

We enable sustainability through power conversion innovation. Every increase in power conversion efficiency reduces our customers' power consumption and decreases their environmental impact and carbon emissions. By continuing to make our products and solutions more energy efficient, we help our customers reach their sustainability goal.





ENVIRONMENT

Inventing Energy Efficient Products

Our dedicated R&D teams strive to improve power conversion efficiency, balanced with exceptional stability and nimble control and response. Every increase in power conversion efficiency reduces our customers' power consumption and decreases their environmental impact and carbon emissions. Our products deliver **industry-leading efficiencies up to 98%**. Read more in our [white paper](#).

Data Center Computing

Every **2% increase** in server power supply efficiency results in 1.6% less electricity used (1.4M kWh saved per year*)



This is equivalent to**

2,297
barrels of oil consumed

125
houses powered in a year

1,097,730
pounds of coal burned

2,187,328
pounds CO₂ equivalent

Horticulture Lighting

10.5%
Energy savings using AE's centralized approach to LED lighting in indoor farming applications

Semiconductor Manufacturing

AE's eVoS™ reduces power consumption in a NAND fab with 180 etchers by 3.6 MW – equivalent to the yearly consumption of **2,479 US HOUSEHOLDS*****

AE's flagship RF power supplies enable "idle state" mode, which reduces power consumption by **50% / UNIT**

*Calculations for a 10 MW facility with servers that consume 50% energy and a PUE of 1.6
**Calculations based on the U.S. EPA Greenhouse Gas Equivalencies Calculator

***Calculations based on the US Energy Information Administration's average annual household consumption of 10,632 kWh

ENVIRONMENT

Implementing Energy Efficient Operations



Advanced Energy makes continuous improvements to reduce our energy usage in our global factories. We track our greenhouse gas (GHG) emissions at several key manufacturing sites* pursuant to The Greenhouse Gas Protocol, and report publicly through CDP and various regulatory bodies. From 2014 to 2022, our factories in Zhongshan, China and the Philippines **reduced Scope 2 CO₂ emissions by 23,941 metric tonnes, a 34.5% reduction** from the base year.

Our Philippines factory is a three-time PEZA Hall of Fame Awardee for Outstanding Environmental Performance. By employing novel alternatives, the site reduces the need for thermal testing.

**Manufacturing locations in Cavite & Laguna in the Philippines, Zhongshan in China, Milpitas in California*

Advanced Energy Select Manufacturing Sites Emissions (2022)

Cavite & Laguna in the Philippines and Zhongshan in China

GHG Emissions (mtCO₂e)

Scope 1 Emissions	1,553
Scope 2 Emissions (Market-Based)	29,876
Total Scope 1 and 2 Emissions	31,429

Energy Management (kWh)

Electricity Purchased (kWh)	60,161,985
Energy Intensity (kWh/Worked Hour)	4.02

Waste Management

Waste Generated	2,042,217 kg
Waste Recycled	1,858,583 kg
Waste Diversion Rate	91%

Water Management

Water Withdrawals (US Gals)	75,743,376
Water Recycled/Reuse (US Gals)	556,834

ENVIRONMENT

Reducing Waste

Advanced Energy strives to reduce waste and conserve natural resources. We continue to optimize our systems and implement new initiatives focusing on:

Actively Managing Waste

Our factories in Asia actively manage and minimize both non-hazardous¹ and hazardous waste. Through our efforts to reduce, re-use, recycle and repurpose/refurbish, we maximize our waste diversion rate. In 2022, our **waste diversion rate was 86%**.

Recycling / Reusing Materials

Our factory packaging team provide recycle / reuse outgoing packaging design that minimizes packaging materials, uses recyclable resources available in the market and includes recyclable packaging labels per country requirement. We accommodate specific requirements per customer request. As a key supplier to Applied Materials, we are proud to support the company’s SuCCESS2030 recycling initiative aimed at creating a more sustainable supply chain.

Conserving Water

We strive to reduce wastewater produced by our operations. We implement water treatment programs in our factories in the Philippines and recycle wastewater in several factories in Asia.

¹ Includes packaging material that cannot be reused or recycled, industrial and domestic waste

Waste Diversion Rate – Asia Factories (2022)

Cavite & Laguna in the Philippines, Penang in Malaysia, Xianghe and Zhongshan in China

Waste Type	Waste Generated in 2022 (kg)
Non-Hazardous Waste	2,040,096
Waste Diverted	1,802,908
Landfill, Waste-to-Energy and Incineration without Energy Recovery	237,188
Hazardous Waste	539,311
Waste Diverted	411,122
Landfill, Waste-to-Energy and Incineration without Energy Recovery	128,189
Total Waste	2,579,407
WASTE DIVERSION RATE (ASIA FACTORIES)	86%

$$\text{Waste Diversion Rate} = \frac{\text{Materials diverted from landfill, incineration and the environment}}{\text{Total Waste Generated}}$$



Social

SOCIAL

Purposeful Corporate Citizenship



Advanced Energy aspires to be a premier employer and a good corporate citizen. We continually invest in diversity, inclusion and social responsibility.

Innovation is the lifeblood of our Company, and our people are the source of our innovation. We have a long history of introducing many industry-firsts into precision power applications where our products are used to enrich people's lives. We recognize that our diverse perspectives and collaboration enable us to drive innovation and future growth for our global customers.

In 2022, we conducted a survey of our global workforce. We saw high participation rates and consistently strong, favorable results across all questions and categories. The survey results are used to identify opportunities for driving improvements across all aspects of our operations.

2022 EMPLOYEE SURVEY RESULTS



86%

of global employees participated in the 2022 Employee Survey



89%

of participants are proud to work at AE and believe in its future



87%+

agreed that collaboration, ethical conduct, job enablement and employee safety are key strengths of AE

SOCIAL

Empowering Our People



Advancing diversity, equity & inclusion

We strive to cultivate an environment where all our people love to contribute and innovate.

In 2021, we relaunched our Corporate Diversity, Equity and Inclusion (DE&I) Steering Committee. The DE&I Committee develops strategies and initiatives aimed at enhancing engagement, awareness, and inclusion for our employees, customers, vendors and communities. The Committee provides global guidance and direction to develop specific, targeted initiatives. With the support of the executive leadership team, we have established a multi-year roadmap to further enhance DE&I as a critical component of our culture.

In 2022, we added **2 women** to our executive leadership team. In addition, through a combination of internal promotions and external hiring, we **doubled** the number of women represented at vice president level and above from 2021-2022.

Fostering a diverse & skilled talent pipeline

Our success as a technology company depends on an innovative, entrepreneurial and future-ready workforce that reflects the global communities we serve. We work with a global network of university partners to foster a diverse and skilled talent pipeline.

In 2020, we launched our Science, Technology, Engineering and Mathematics (STEM) Diversity Scholarship. The scholarship aims to nurture greater ethnic, racial and gender diversity in STEM by providing financial support, mentorship and on-the-job experience to college students as a pathway to future employment with our company.

Since the launch of the STEM Diversity Scholarship, we have award grants, mentoring and internship programs to **7 recipients**.

SOCIAL

Empowering Our People

We recognize the importance of creating a work environment in which all our team members feel valued, included and empowered to do their best work. We roll out employee programs globally to encourage our people to openly share their ideas, perspectives and capabilities to make a positive impact in our workplace and beyond.



Launched Advanced Energy's inaugural **STEM Diversity Scholarship**, which offers a pathway of future employment with the company



Relaunched Advanced Energy's **Women's Leadership Forum**, a resource group for employees to connect and learn about leadership and business topics

Conducted the **2022 Employee Opinion Survey**

2020

2021

2022

2023



Relaunched Advanced Energy's **Corporate Diversity, Equity, and Inclusion (DE&I) Steering Committee** aimed to enhance DE&I in our culture

Relaunched Advanced Energy's **Community Investment Steering Committee** to review funding requests from employees to support non-profits



Continue Advanced Energy's **Leadership Essentials Program**, a 10-week program for people leaders of all experience levels, aimed at developing and enhancing core competencies to empower, engage and inspire high-performing teams

SOCIAL

Empowering Our People

Benefits and Compensation

We provide competitive compensation and benefits programs to attract and retain a talented, highly engaged workforce. Our compensation programs focus on equitable, fair pay practices including market-based base pay and pay-for-performance incentives, and we offer a strong benefits package in each of the countries in which we operate. Examples of our total rewards programs include:



Pay-for-performance: Over 40% of our non-manufacturing employees participate in our annual pay-for-performance program.



Employee retirement: Almost 90% of our full-time U.S. employees participate in the 401(k) plan, in which Advanced Energy funded \$4.5 million of immediately vested, matching contribution in 2022. Outside the U.S., we maintain defined benefit pension plans for employees in the U.K., Germany and the Philippines.



Discounted employee stock purchase plan: To encourage our employee's vested interest in the company, we offer a discounted employee stock purchase plan to our employees in eligible countries.



Employee children education: In 2022, we awarded scholarships to 25 children of AE employees globally as part of our Child of Employee Scholarship program.



SOCIAL

Empowering Our People



Learning and Development

We provide internal and external learning and development opportunities for our people. In 2022, we launched a 10-week leadership development program for our people leaders, providing the opportunity to develop and enhance the essential competencies needed to empower, engage and inspire high-performing teams. **345 employees participated in this program in 2022 globally.** We have programs for education reimbursement that provide financial support to employees who seek to expand their skills and abilities. We also have a robust talent management and succession planning process focused on identifying potential candidates, developing internal leadership capabilities and strengthening our technical bench of leaders.



Safe Work Environment

We are committed to providing a safe work environment. Our Environmental, Health and Safety organization is responsible for health and safety related to on-site operations including hazard and risk identification. We provide regular health and safety trainings both on-site and through our virtual tool that assigns training based on job profiles and site-specific requirements. We are also committed to the standards of the Responsible Business Alliance Code of Conduct which promotes labor, health and safety, environmental and ethics best practices. In 2022, our **Total Recordable Incident Rate (TRIR) was 0.45** and **Lost Time Incident Rate (LTIR) was 0.26**, better than the North American Industry Classification System Code (NAICS):334419 (other electronic component manufacturing) 2021 industry benchmark (1.5 TRIR and 0.6 LTIR).



SOCIAL

Engaging with Our Communities

Advanced Energy strives to be a good corporate citizen. By engaging in volunteerism, charitable giving and partnerships, we strengthen our relationships with our local communities and help create a positive impact.

Charitable Contributions

Our Community Investment Committee is led and supported by our employees. In 2022, the committee organized volunteer events and **provided investment, sponsorship and donations to eight 501(c)(3) corporations** that improve education, the environment, and health and social services within the communities in which we operate.

Volunteerism

We offer each employee eight hours of paid time off to volunteer with a 501(c)(3) organization of the employee's choosing. In 2022, Advanced Energy's employees volunteered for home-building projects and nature clean-ups, as well as at food banks around the world. In North America alone, our employees contributed **over 750 volunteer hours**.

Community Contributions

We help facilitate innovative research projects and invest resources to advance energy efficient technologies and help shape tomorrow's leaders in power solutions. We partner with academic institutions in California, Colorado, Minnesota, and New York to provide internship and mentoring opportunities.





Governance

GOVERNANCE

Guided by Our Core Values

Advanced Energy is firmly committed to strong and effective corporate governance practices and accountability to our shareholders. We routinely review our governance practices against evolving best practices and consider feedback and input from our shareholders.

At all levels of our organization, we deliver extraordinary results by building a culture grounded in our Core Values. Just as our business has grown and continues to evolve, so will our culture. In 2022, we refreshed and enhanced our Core Values to ensure they are clear, aligned and truly reflect the organization we are today and strive to be in the future.



INNOVATION

We innovate by thinking beyond the ordinary to create unique, high quality, reliable solutions.



PARTNERSHIP

We partner with our customers and stakeholders with a shared purpose to deliver win-win outcomes.



INTEGRITY

We act with integrity, we respect others, we do the right thing, we do what we say, and we develop and nurture trusting relationships.



ACCOUNTABILITY

We are accountable for our actions, our decisions and our commitments and we own the resulting outcomes.



EMPOWERMENT

We empower our people to leverage their diverse and unique talent and ambitions.



EXECUTION

We execute to our commitments because it is fundamental to our mission, our credibility and our success as a Company.





GOVERNANCE

Enabling Effective Management

Our Board of Directors promotes the best interests of the company and its shareholders by overseeing the management of business, assets and affairs. To ensure that all members carry out their duties in an honest manner that adheres to all applicable laws and regulations, the Board of Directors has adopted the Director Code of Ethical Conduct.

90% of our board members are independent, non-executive directors. Our Board of Directors monitors the management of the company in a way that puts shareholder interests first, fosters independent decision-making and mitigates conflicts of interest. **The average tenure for our Board of Directors is 4.6 years.**

Board of Director Highlights*

** As of May 1, 2023*

90%

Independent, Non-Executive Board Member

30%

Female Board Members

10%

Racially / Ethnically Diverse

>90%

Has 3+ Years of Tenure

100%

Committee Member Independence

The pay for performance executive compensation structure ensures that our leaders focus on sustainable success as measured by total shareholder returns or other performance metrics. The executive officer compensation put forward at the 2023 Annual General Shareholder meeting received 98% approval from shareholders.

Advanced Energy Leadership Team



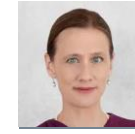
Steve Kelley
President and Chief Executive Officer



Paul Oldham
Executive Vice President and Chief Financial Officer



Eduardo Bernal
Executive Vice President and Chief Operations Officer



Elizabeth K. Vonne
Executive Vice President, General Counsel and Corporate Secretary



John Donaghey
Executive Vice President and Global Head of Sales

GOVERNANCE

Enhancing Transparency

Advanced Energy is committed to transparency in all parts of our business to promote accountability, cultivate trust and foster open communication. We believe that transparency leads to improvements to our processes and policies, and ultimately contributes to our success as an organization.

In addition, we are committed to complying with all applicable tax and accounting laws and regulations in the countries in which we operate. All required filings are made accurately and within the allotted deadline with the relevant regulatory bodies.

We respect the privacy of our stakeholders and ensure that our privacy policy complies or exceeds country requirements, including the European Union's General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA).

Taking action to actively maintain an ethical and transparent environment is an important part of our culture. The company encourages the reporting of possible questionable conduct. Advanced Energy actively provides reporting options through our policies, training, posters, internal communications and announcements. Communications can be made directly to our management staff or through our third-party reporting tool at www.advancedenergy.ethicspoint.com





Ethical Practices

ETHICAL PRACTICES

Acting Responsibly

Ethical Business Practices

We commit to the standards of the Responsible Business Alliance (RBA) Code of Conduct. The RBA is the world's largest industry coalition dedicated to corporate social responsibility in global supply chains.

Code of Ethical Conduct

Advanced Energy's Code of Ethical Conduct contains principles and guidelines for: conflicts of interest, insider trading, privacy, gratuities, donations, gifts and business courtesies, anti-trust/competition, anti-slavery and anti-fraud.

Whistleblower Hotline

We regularly train employees on ethical business practices and provide a 24-hour hotline to address ethics issues. We do not tolerate unlawful retaliation against any individual who brings a complaint in good faith or participates in an investigation.

Harassment / Discrimination Prevention

We are committed to providing a work environment that is free from harassment or discrimination based on race, color, religion, sex, sexual orientation, gender identity and expression, ethnicity and national origin, age, ancestry, disability, marital status, veteran or military status, genetic information, political affiliation, union membership or any other characteristic protected by law.

Freedom of Expression

Employees are free to participate and express themselves in discussion groups, forums, direct conversations with management and other communication channels without fear of discrimination, reprisal, intimidation or harassment. Our employees are able to take part in community, business, trade, professional, charitable and civic organizations.

Insider Trading Policy

Our Insider Trading Policy aims to prevent insider trading and help company personnel avoid the severe consequences associated with violations of insider trading laws. This policy is also intended to prevent even the appearance of improper conduct on the part of anyone employed by or associated with Advanced Energy.

ETHICAL PRACTICES

Protecting Human Rights

Respecting the human rights of our employees and those involved in our business operations is important to Advanced Energy.

Without exception, as a global company, Advanced Energy does not engage in any form of forced, bonded (including debt bondage) or indentured labor, involuntary prison labor, slavery or trafficking of persons.

Our Supplier Code of Conduct applies to our suppliers and specifically prohibits activities involving slave or forced labor, human trafficking and child labor.

We have policies and procedures in place to support this commitment.

- ✔ **Employee Code of Ethical Conduct** that includes anti-slavery and human trafficking provisions
- ✔ **Supplier Code of Conduct** and **Supplier Business Audit Program** dedicated to preventing slavery and human trafficking. AE's Purchasing terms and conditions require compliance with our Supplier Code of Conduct
- ✔ **Anonymous reporting system** to employees and all members of our supply chain at www.advancedenergy.ethicspoint.com
- ✔ **Staffing agreements** prohibiting provision of resources by third parties that are inconsistent with AE's policies
- ✔ **Annual training** for all Purchasing, Commodity Management, Human Resources, Supplier Quality, Internal Audit and Legal personnel to raise awareness of modern slavery and human trafficking



ETHICAL PRACTICES

Practicing Responsible Sourcing

Advanced Energy is dedicated to reducing the impact our procurement activities and supply chain have on the planet, whether that impact is on human rights, the environment or any other area of corporate social responsibility.

The mining of conflict minerals supports armed conflict or risks of human rights abuses. Advanced Energy supports the U.S. Securities and Exchange Commission (SEC) rules to implement reporting and disclosure requirements related to “conflict minerals” as directed by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

We require our suppliers to provide a list of smelters and refiners to ensure that 3TG (Tungsten, Tantalum, Tin and Gold) used in the manufacture of components and products supplied to Advanced Energy do not originate from operations in the conflict region.



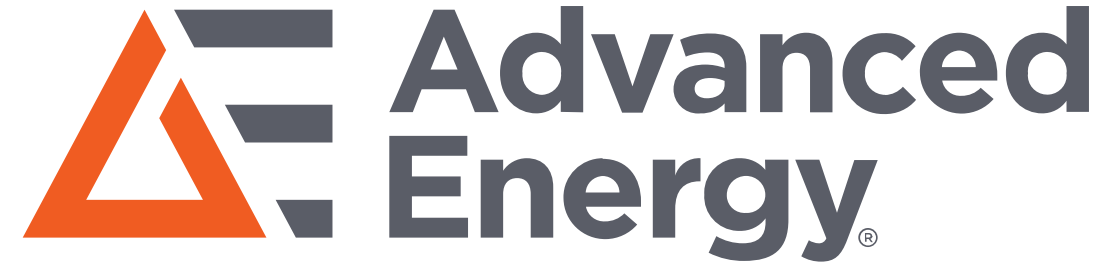


About This Brochure

Advanced Energy published this brochure to provide an overview of our company's products, services, operations and activities related to ESG.

Special Note Regarding Forward-Looking Statements

This document includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding our environmental and social goals, commitments and strategies. These statements involve risks and uncertainties. Actual results could differ materially from any future results expressed or implied by the forward-looking statements for a variety of reasons, including due to the risks and uncertainties that are discussed in our most recently filed periodic reports on Form 10-K and Form 10-Q and subsequent filings. We assume no obligation to update any forward-looking statements or information, which speak as of their respective dates.



PRECISION | POWER | PERFORMANCE | TRUST