



WHAT IS ESG?

Environmental, social, and governance (ESG) refers to a company's set of standards in relation to sustainability, human and social capital, leadership, and compliance. These factors play an increasingly large role in business decisions as shareholders are becoming more concerned with how an organization's (primarily) eco-social practices will affect long-term growth in a rapidly changing landscape favoring clean energy, diversity, and corporate responsibility.

Companies looking to stay ahead of the curve and retain compliance with government regulations should view ESG as an essential component of their business strategy. Numerous oil and gas companies have already seized the opportunity to pursue ESG initiatives as a means to distinguish themselves from the competition and help sway public perceptions of the industry.

THE GROWTH OF ESG INVESTING

The underlying premise of pursuing an ESG strategy is that specific environmental, social, and corporate governance factors have a measurable impact on the success of a business. Savvy investors have begun to take ESG factors into consideration when identifying opportunities that mitigate risk, implying that companies that wish to raise capital and solidify their place in the market should place importance on an ESG strategy. The criteria below are commonly used to evaluate ESG investing opportunities:

// The environmental segment considers the steps taken to promote sustainability such as improving carbon intensity, resource usage, water efficiency, energy efficiency, and climate change strategy.

// The social segment examines how a company improves its social impact, both internally and externally. These factors include working conditions, conflict resolution, the impact on local communities, partnerships, the health and safety of employees, as well as steps taken to promote diversity and inclusion.

// The governance segment analyzes the internal structure and workings of a company. This includes executive pay, shareholder rights, regulation compliance, board diversity, and business ethics.

ESG encompasses how a company serves all its stakeholders including workers, communities, customers, shareholders, and the environment. Mike Walters, CEO of USA Financial, has this to say:

"Identifying the impact, positive or negative, on these five stakeholders is what should become the measuring stick for quality ESG investing. This is important for the obvious impactful reasons relating to each stakeholder, but it also can be used to identify the strength and sustainability of the company itself."

WASTE HEAT RECOVERY FOR ESG STRATEGY

Power generation and industrial processes across the globe routinely see over 50% of input energy lost as heat. This heat, commonly referred to as waste heat, is often vented to the atmosphere or dumped into bodies of water. This is an immense waste of resources and a significant contributor to global warming.

With waste heat recovery, a process that uses an Organic Rankine Cycle (ORC) to exploit the temperature difference between a heat source and condensing source (hot water and cold water), low temperature heat sources – such as engine jacket water, micro geothermal, and exhaust gases – can be efficiently converted into clean energy.

By capturing this waste heat one can generate emission-free electricity – reducing fossil fuel consumption and offsetting their related emissions – or achieving a greater power output with no additional fuel consumption, reducing your overall emissions per kilowatt. Not only that but by utilizing this heat, the parasitic cooling load (i.e. radiator / cooling tower power usage) is significantly reduced with the ORC system providing the cooling for itself as well as the engine. This further increases energy efficiency and actively supports ESG strategies.

Traditional heat recovery systems were restricted to industries with high temperature heat such is found at large power plants – making widespread adaptation virtually impossible. Thanks to recent advancements in ORC technology, heat sources as low as 70°C can now benefit from waste heat recovery with ElectraTherm's proprietary technology. This opens up opportunities across many industries that before lacked sufficient heat for heat recovery.

For reference, the [DOE predicts that the waste heat from industrial processes in the United States alone can provide over 10 gigawatts of clean electricity, enough to power over 10 million American homes and save U.S. industries over \\$3,000,000,000 annually while creating as many as 160,000 jobs](#). Of this heat, it is estimated that 90% of it is at too low of temperatures for traditional heat recovery technologies, making low temperature heat recovery technologies – such as ElectraTherm's ORC [net-zero cooling](#) and [combined heat and power systems](#) – an ideal addition to businesses wishing to [increase energy efficiency up to 10%](#) and reduce dependence on the grid.

Waste heat recovery using an ORC system falls in line with many corporate ESG strategies. Modern solutions such as ElectraTherm's net-zero cooling and power generation system, the Active Cooler, offers a simple and cost-effective means of reducing your carbon footprint by increasing energy efficiency. Below are some of the benefits operators of ORC systems enjoy:

- // Production of clean electricity with no additional fuel consumption or emissions.
- // Reduced cooling load, potentially enough for the ORC to serve as a net-zero cooling solution.
- // Reduced emissions by using the clean electricity generated to offset energy demand.
- // Flare elimination by routing excess gas to a high efficiency boiler that provides power to the ORC.
- // Repurposing oil and gas wells for geothermal power generation.

// Remote generation of a baseload electrical supply for off-the-grid sites.

US projects that commence by 2023 may even qualify for a federal tax investment credit up to 26%, many other countries have incentives promoting increasing energy efficiency and the generation of clean energy.

ESG – HERE TO STAY: OIL & GAS

The quick rise in the popularity of ESG investing is not surprising, seeing how investors saw the COVID-19 crisis as a major turning point for long term ESG investing. In the energy industry, having a solid ESG strategy has gone from a nice-to-have feature to a must-have necessity. See a few of the reasons ESG is here to stay:

1. Government Regulations

Governments around the world have begun taking measures to combat climate change and transition to a carbon-neutral economy. This includes additional financial reporting, disclosure requirements, increasing regulations, and banning refrigerants amongst other things. As laws become more strict and industries are hit with efficiency and emissions regulations, the key to longevity is to be ahead of the curve – leaders in sustainability will become leaders in their industries.

2. Access to Capital

By implementing sound ESG policies, companies can differentiate themselves from the competition. As investors and venture capitalists are becoming more aware of ESG and how a company's stance on the matter can play a role in their long-term success, companies that take advantage of the situation may be able to sway investors and secure capital; capital which can be used to transition into the future of clean energy.

3. Future Success

Some experts believe that oil and gas [demand growth will peak around 2030](#) with the adoption of cleaner forms of energy, with companies such as BP having already stated that peak demand growth has already plateaued. The next few decades – with the energy industry adopting renewable technologies such as solar, wind, geothermal, and energy storage – will be crucial to the success of today's oil and gas companies. Repurposable and scalable systems will also be essential in this matter.

Taking steps to reduce carbon intensity, increase energy efficiency, and add renewable power to energy portfolios will be of the utmost importance. This not only maximizes short-term success but creates long-term value as capital sources will lean towards investments that have smaller carbon footprints, are mindful of climate change, and are well positioned for success in the age of clean energy. Waste heat recovery as part of your ESG strategy is an easy and cost-effective means of exceeding regulations and setting the foundation for more efficient business processes in the future.