



Electric Process Heaters Market: Troubleshooting Market Challenges and Identifying Growth Avenues

INFINITI RESEARCH

Overview



Electric process heaters (EPH) are widely used in modern industry due to their precise control, relatively small footprint, heating efficiency, lack of harmful emissions, and minimal maintenance. As such, EPH finds use in many industries, including power generation, oil and gas refining, petrochemical, pulp and paper, and pipeline. Experts at Infiniti research forecast the electric process heaters market to grow favorably over the next five years. Some of the major factors fueling growth in the market include increasing investments in traditional energy sectors (E&P, refineries, thermal power plants), decarbonization initiatives of energy companies, growth of renewable energy generation (especially solar thermal and bioenergy).

New offshore E&P investments in the Gulf of Mexico and the Middle East and expansion of refining capacity in India and China also offer substantial growth opportunities for the EPH market. The adoption of digital technologies in energy facilities in Europe and the Middle East will also significantly boost the growth opportunities for companies in the market. Although similar trends are expected to drive EPH growth in the APAC, Strong renewable energy focus of India and China (majorly solar PV and wind), which plan to increase the share of renewable energy to more than 50% in the long term poses as a significant market challenge. In the Americas region, the expansion of oil and gas refining capacity in the US new investments in E&P activities in the Gulf of Mexico, natural gas production projects in the US, and oil and natural gas production in Brazil are expected to be key growth drivers that EPH companies over the next five years.

This article from Infiniti Research is aimed to understand the growth potential and market challenges electric process heaters in energy sectors, including oil and gas, power generation, and petrochemicals. Our Industry experts also highlight key recommendations for EPH companies to capitalize on existing and new market opportunities.

Top market growth drivers in the electric process heaters market

New investments in the traditional energy sector

Industry experts expect the global energy demand to increase over the next two-three decades. Traditional energy sources such as oil, gas, and coal are expected to dominate the energy sector till 2040, although the larger growth will be driven by renewable sources. The investments in the coming years in the traditional energy sector are expected to be subdued compared to historical levels, however, the part of new investments will be focused on energy transition projects and emission control levels of new sites due to growing pressure on these companies from governments and climate bodies to reduce their carbon footprint. This will offer opportunities to drive the adoption of electric process heaters. Moreover, Top oil and gas companies continue to invest upstream to downstream, with a plan to meet the future energy demand. These new investments will offer opportunities for electric process heaters.

“Electric process heater adoption will reach around 50% in the oil and gas sector by 2050, with higher installations in new plants.”- Operations Manager of a multinational energy services company

Decarbonization initiatives of top energy companies

In association with the Paris Agreement to combat climate change, multiple international oil and gas companies have set targets and designed strategies to limit emissions at their production sites. These emission control initiatives of oil and gas companies are currently voluntary. However, short- to medium-term plans such as investments in renewable energy projects are expected to fuel the demand for electric process heaters. Stricter regulations and climate goals in the long-term are expected to force these companies to electrify their operations. Carbon capture and renewable energy generation are the most adopted decarbonization strategies by the top energy players in the short- to medium-term.

Digitalization of energy facilities

Digital transformative initiatives such as Big Data analytics and IoT will drive the demand for compatible equipment such as electric process heaters in energy plants. The digital investments in the energy sector are expected to experience substantial growth due to factors such as fluctuations in energy prices, the emergence of carbon emission control policies, government initiatives, and the rising need to streamline operations and cut down costs. According to industry experts at Infiniti Research, investments by major players toward digitization of operations to enhance process efficiency will drive the adoption of electric process heaters.

For detailed insights into the growth opportunities in the EPH market, [get in touch with an industry expert.](#)

Biggest challenges in the electric process heaters market

While the growth prospects in the electric process heaters industry seem positive, experts at Infiniti identify some critical roadblocks that could hinder the short-term, medium-term, and long-term growth objectives of companies in the market.

Availability of low-cost, low carbon sources for industrial heating applications

Although emission control initiatives in the energy sector are driving the electrification of plants, the availability of low carbon and low-cost fuels is slowing down its adoption. An increase in the supply of low carbon fuels such as natural gas by gas firms with the support of governments and its cost advantage over electricity will negatively affect the adoption of electric process heaters in energy plants in the medium-term.

Poor implementation of climate control measures by governments

The benchmark emission targets set by the Paris Agreement are 40 GtCO₂e (Gigatonnes of carbon dioxide equivalent) in 2025 and 26 GtCO₂e in 2030. However, the pledges and targets submitted by countries as of December 2019 will result in total global emissions to almost be double these expected figures. In addition, a majority of the countries are still lagging in terms of implementation of proper energy transition or emission control policies and therefore are expected to miss their emission targets. The lack of stringent climate policies and its poor implementation will hold back the adoption of decarbonization strategies (especially electrification of heat processes) by energy companies. This will negatively impact the adoption of electric process heaters and significantly slow down the adoption of EPH in the near term.

High cost of electric process heaters and associated infrastructure

The high capital cost associated with the installation of electric process heaters is the most impeding factor for its adoption by energy companies when compared to other fuel-powered alternatives. Some of the critical cost-related barriers include:

1

Limited availability or high cost of electrical systems for high-temperature applications (>1600 °F), which are suited for industries with large energy requirements such as oil and gas refining, chemical, power and steel

2

Large differential between the cost of thermal energy generated from fuels and the cost of electricity

3

Cost of materials used for electric systems that can be used in high temperature and complex (contaminated) process environments

4

Cost involved in setting up power grid substation near plants that can offer uninterrupted power supply to electrical heating systems

Cost of electrical systems when compared to fuel-powered systems will continue to affect the demand in the medium-term negatively. However, an increase in renewable electricity generation capacity (helps reduce the cost of electricity) and emerging technologies in electric heating will increase the cost efficiency of these systems and their adoption in the long-term.



What are the key challenges affecting EPH players in North America, APAC, and EMEA? Request a **FREE** proposal to access exclusive region-wise market insights.

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Thought leader recommendations

With 16+ years of industry expertise in helping global companies combat business challenges and capitalize on market opportunities, Infiniti Research caters effectively to clients with tailored solutions to their unique business requirements. Our industry experts provide some key insights and approaches to success for companies in the electric process heaters market.

1. Target new investments in energy market to improve adoption of electric process heaters

Based on Infiniti's extensive primary and secondary research in the industry, the adoption of electric process heaters is very low in existing energy facilities as it is difficult to replace existing fuel-based heating systems with electric heaters. Hence, new investments in the energy sector will provide growth opportunity for electric process heaters in the near/long-term such as:

- o Offshore oil and gas investments in the Gulf of Mexico, Middle East, and North Sea
- o Expansion of refining capacities in India and China
- o Increasing biofuel production in the US, Brazil, China, India, South East Asia, and EU

2. Improve product features and capability to compete against other heating options

The availability of low-cost and low-carbon sources such as natural gas, biomass, and hydrogen fuel is the primary factor hindering the adoption of electric process heaters in the energy market. Companies in the EPH market must Focus on enhancing the cost and operational efficiency of electric process heaters through investments in new technology development to make them competitive against other heating systems.

3. Offer technical and consultancy services to improve customer experience

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4. Devise comprehensive marketing strategy to improve awareness among customers

Electric process heater manufacturers need to devise an efficient marketing plan that enables them to inform and make customers across the energy value chain aware of the benefits and applications of electric heaters in energy facilities. Some of the strategies that manufacturers can follow are:

- Maintain a robust and user-friendly website
- Strengthen social media presence
- Establish presence in publications
- Conferences and cF

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