

## **Testing, Inspection, And Certification (TIC) In The Energy And Power Industry - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

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### **Report description:**

The Testing, Inspection, And Certification Market In The Energy And Power Industry is expected to grow from USD 5.98 billion in 2025 to USD 7.28 billion by 2030, at a CAGR of 4% during the forecast period (2025-2030).

### **Key Highlights**

- The primary role of TIC (testing, inspection, and certification) companies is to sustain the health, safety, and quality requirements of their client's products. Moreover, testing, inspection, and certification vendors are engaged in verification, inspection, testing, and certification services to help improve productivity and also help local manufacturers comply with global standards.
- Testing, inspection, and certification (TIC) ensure that services, infrastructure, and products meet quality and safety standards. This is especially crucial in industries like power and energy, where regular inspections are required. The TIC services market is expected to grow consistently regardless of industrial seasonality.
- The energy and power industry feeds the world's economy. There is a rising need to efficiently and effectively operate energy and power projects to sustain energy growth and provide environmental support. Increasing urbanization and people migrating from rural areas to urban areas are driving the development of the TIC market in the energy and power industry.
- The growing demand for renewable energy, the government's stringent regulation, environmental concerns initiative for controlling environmental pollution and increasing adoption of advanced and digital technologies in the power sector are some of the major factors driving the market's growth. The European power and energy sector is rapidly reinventing itself, where digitalization and interconnection are the new norms. The goal of becoming the world's first climate-neutral continent by 2050 is pushing the industry to adopt a low-carbon future. TIC services enable the competitiveness and asset's safety and compliance with stringent environmental standards.
- Stringent regulations from regulatory bodies and government, especially in high-end industrial equipment certification, compel

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energy and power sector companies to adopt outsourced testing, inspection, and certification (TIC) services. The power generation vendors may also be reluctant to outsource TIC services as they pose several risks related to privacy and security, as it involves sharing confidential supply chain information with third parties. Hence, adopting TIC services might take a lot of work due to these restraining factors.

- In Germany, there are many private conformity assessment bodies, including the group of Technical Inspection Agencies (TUV). Accreditation ensures that customers can trust in conformity assessment. Accreditation bodies attest to the technical competence of conformity assessment bodies and their objectivity. Conformity bodies in the EU require just one accreditation issued by their national accreditation body, which is recognized across the single market. The German Accreditation Body (Deutsche Akkreditierungsstelle GmbH - DAkkS) is the foremost accreditation body in Germany.

- The macroeconomic factors impacting the TIC market in the energy and power industry is the overall economic growth, both globally and regionally, as it plays a significant role in driving the demand for energy and power infrastructure, products, and services. Higher economic activity typically leads to increased investment in energy projects, which, in turn, drives the demand for TIC services to ensure compliance, safety, and reliability.

## Testing, Inspection, and Certification (TIC) Market Trends

### Power Generation to Witness Significant Growth

- The power generation sector plays a fundamental role in global economic development, providing the energy required for various industries and everyday life. With the rising demand for sustainable and reliable power, practical testing, inspection, and certification (TIC) services have become paramount.
- Regulatory compliance is one of the primary market drivers for TIC services in the power generation sector. Governments globally have implemented stringent regulations to ensure power generation facilities' safety, reliability, and environmental sustainability.
- These regulations require power plant operators to undergo comprehensive testing, inspection, and certification to meet the specified standards. Failure to comply with the stringent rules can result in severe legal consequences, penalties, and reputational damage for power generation companies. The demand for TIC services has thus increased significantly as power plants seek to comply with these regulations and maintain their operations smoothly.
- The power generation sector involves complex machinery, high voltages, and hazardous materials, making safety a top priority. Testing, inspection, and certification (TIC) services are crucial in identifying potential safety risks and ensuring that power generation facilities operate within acceptable safety standards. These services include electrical systems, mechanical components, fire safety, radiation exposure, and more. The market demand for TIC services in the power generation sector is driven by the need to mitigate risks, prevent accidents, and safeguard the well-being of workers and surrounding communities.
- Moreover, power generation facilities are capital-intensive investments, and their efficient operation is crucial for meeting energy demands. Testing, inspection, and certification services help ensure that the equipment and systems used in power generation meet the required quality standards. By conducting rigorous testing and inspections, TIC services help identify defects, malfunctions, or inefficiencies in the power generation infrastructure. This enables power plant operators to rectify issues promptly, optimize performance, and improve overall reliability. The need for quality assurance and operational excellence thus drives the market demand for TIC services in the power generation sector.

### Asia Holds the Largest Market Share

- China is among the rapidly growing economies in the Asia-Pacific area, making it an appealing location for the TIC (testing,

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inspection, and certification) market to thrive. Increasing consumer knowledge about product safety and quality is also anticipated to spur growth in sectors like equipment testing in the energy and power field.

- According to CEC, approximately 2,920 gigawatts of electricity generation capacity had been installed in China as of 2023, up from some 3,000 gigawatts in 2022. Most thermal power is coal-based and is the energy source with the country's most significant power generation capacity. Moreover, according to CEC, China had a total electricity consumption of around 9,220 terawatt hours in 2023. This was a notable increase compared to 2022, when consumption amounted to approximately 8,640 terawatt hours. This increase in electricity consumption will drive the studied market in the country.

- India is one of the most dynamic markets for testing and inspection in the Asia-Pacific region, as it is one of the fastest emerging economies in the region. According to CEA, India's highest energy capacity came from thermal energy, amounting to an installed capacity of over 236 thousand megawatts as of February 2023. Approximately 70% of the country's electricity generation was from thermal power plants. Coal dominated power supply with a contribution of over 86% through thermal power plants. Along with coal, thermal power is generated from lignite, diesel, and gas.

- During the second wave of the COVID-19 pandemic, UL announced the launch of testing services for India's solar photovoltaic (PV) inverter manufacturers. UL has expanded its facility in Bengaluru to help manufacturers comply with the requirements of the standards mandated by the Ministry of New and Renewable Energy (MNRE). The National Accreditation Board accredits the laboratory for Testing and Calibration Laboratories (NABL). The BIS recognizes it under the Compulsory Registration Scheme (CRS) to conduct testing of solar PV inverters based on testing of representative models.

- Owing to low domestic production in the country, the Japanese government always encouraged its energy companies to increase exploration and development projects globally to secure a stable power generation supply. These initiatives make Japan one of the major exporters of energy-sector capital equipment, making it one of the primary adopters of TIC services.

- In November 2023, Japan's Okinawa Electric Power (9511.T) opened new tab plans to start co-firing hydrogen on a trial basis at a commercial gas-fired power plant in a bid to reduce carbon dioxide (CO2) emissions. The utility aims to achieve a hydrogen co-firing rate of 30% at the 35 megawatts (MW) unit of its Yoshinoura thermal power station in the southern island of Okinawa. Establishing hydrogen co-firing technology is a critical initiative to help achieve two goals: expanding renewable energy and slashing CO2 emissions.

## Testing, Inspection, and Certification (TIC) Industry Overview

The TIC market in the energy and power industry is fragmented, with major players like SGS SA, Eurofins Scientific SE, Bureau Veritas SA, Intertek Group PLC, DEKRA SE, and DNV Group AS. Players in the market studied are adopting strategies such as partnerships and acquisitions to enhance product offerings and gain sustainable competitive advantage.

- September 2023 - Intertek partnered with Emitech Group, the French independent testing and engineering specialist. Accredited to EN 17025 and EN 17065, a notified body, and a participant in the CB scheme, the Emitech Group offers its expertise in training, testing, and engineering to organizations operating across a diverse range of end-user industries. This strategic alliance will bring advanced facilities and expanded coverage to Emitech Group and Intertek's European customers.

- June 2023 - Applus+ acquired the entire share capital of Rescoll, a prominent materials testing and research and development technological partner based in France. Rescoll has approximately 170 employees and an annual revenue of over EUR 21 million. Its well-equipped laboratories, experts, and diverse capabilities are claimed to support the development of the energy, medical, aerospace, and industry sectors.

## Additional Benefits:

- The market estimate (ME) sheet in Excel format

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