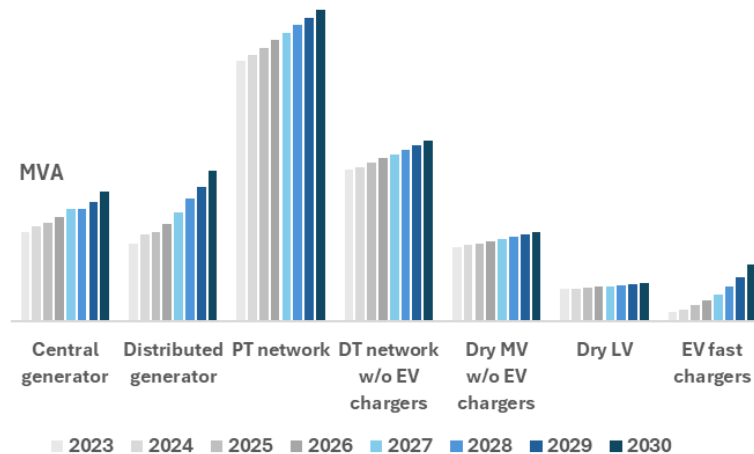


STATPLAN TRANSFORMER REPORT Ed 12

MARKET 2024 - VOL 1 & 2

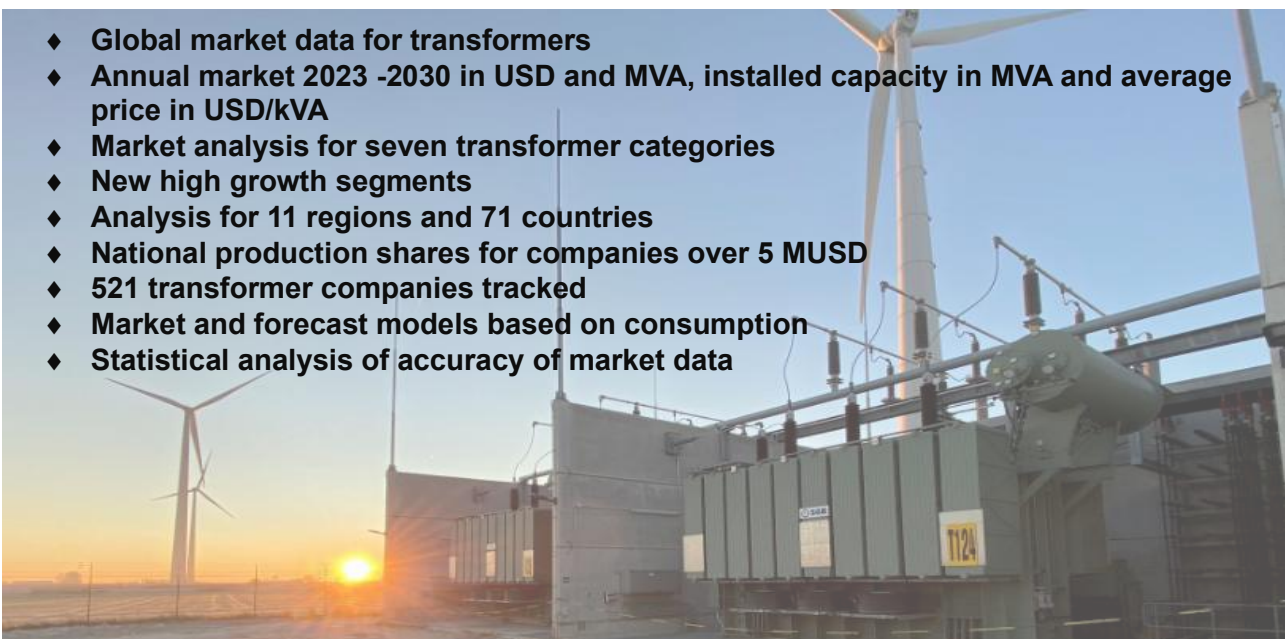


Issued: March 2025

The composition of the transformer market is changing. By 2030 total transformer sales will increase 38% on 2023, wind and solar generator transformers sales 65% and EV fast charger transformer sales 498%.

For the last three years the global transformer market has experienced almost unprecedented high demand and rising prices. The causes: the energy transition, the take-up of EVs, escalation in costs and shortages of materials, issues in the supply chains and a shortfall of production capacity.

- ◆ Global market data for transformers
- ◆ Annual market 2023 -2030 in USD and MVA, installed capacity in MVA and average price in USD/kVA
- ◆ Market analysis for seven transformer categories
- ◆ New high growth segments
- ◆ Analysis for 11 regions and 71 countries
- ◆ National production shares for companies over 5 MUSD
- ◆ 521 transformer companies tracked
- ◆ Market and forecast models based on consumption
- ◆ Statistical analysis of accuracy of market data



Vol 1 - Market statistics and analysis

- ◆ Market analysis of transformer production, imports, exports, sales - PT/DT/Dry MV/Dry LV
- ◆ Forecast of transformers sales by country in value (\$) and capacity (MVA), 2023 to 2030
- ◆ Sales by transformer category - Central GSU/Network PT/Distributed GSU/Network DT/Dry-type MV/Dry-type LV/EV Fast Charger
- ◆ Market shares of manufacturers of transformers with sales \geq \$5 million
- ◆ Transformer market commentary for major countries
- ◆ Transformers for EV fast chargers
- ◆ Central and Distributed power generation (MW) from 1980 to 2030
- ◆ Central GSU and Distributed GSU transformer capacity (MVA) from 1980 to 2030
- ◆ The installed base of transformers by country - Central GSU/Network PT/Distributed GSU/Network DT
- ◆ Numbers of DTs by utility-owned/industry-owned by country
- ◆ Global analysis of the transformer stock
- ◆ Long term demand trend for transformers
- ◆ International trade 2022
- ◆ Total and Top 40 transformer importers and exporters by kVA capacity and voltage - \$ sales - PT/DT/Dry MV/Dry LV
- ◆ Prices and factors determining transformer prices - consumption, materials price trends, inflation
- ◆ Production capacity and utilisation in major countries
- ◆ Profiles of major global and regional manufacturers - several hundred companies listed
- ◆ Network layout, outlines of the different distribution network systems of Europe and North America and global practices
- ◆ Statistical analysis of the accuracy and error of 2023 market sizes

PDF - 257 pages, 159 tables, 54 figures
Excel – 26 spreadsheets

Vol 2 – Descriptive market and technical information

- Transformer types - GSU, power and distribution, general purpose, dry-type transformers
- Low voltage transformers background information
- Development of high voltage transmission
- Solar PV and transformerless inverters
- Hosting capacity of distribution networks and DG penetration
- Smart transformers
- Gas to Wire (GTW) • N+1 standard, N+2 and 2N redundancy
- MEPS - Minimum Energy Performance Standards
- High efficiency transformers
- The supply chain
- Logistics
- Electrification

115 pages, 13 tables, 50 figures

MARKET METHODOLOGY

New models used for:

1. Forecasting the transformer market (\$ and MVA). The demand forecast model has two stages. Sales in the base year are disaggregated into cost components. Sales of each component are forecast at constant values based on the power consumption trend and projected to nominal market values based on component forecasts.

2. The installed transformer base (MVA) capacity is calculated with four separate models.

- DT network capacity from GWh consumption and average load, calibrated by the network.
- PT network capacity from transmission utility data factored by industrial and commercial share..
- Central and distributed generating capacity are calculated separately.

3. Transformer capacity (MVA) for distributed and central generation (MVA) is calculated in four sub-groups; renewables and non-renewable, central and distributed generation. Installed generating capacity (MW) from 1990 to 2030 was disaggregated into 29 sub-groups and factors applied to calculate transformer capacity.

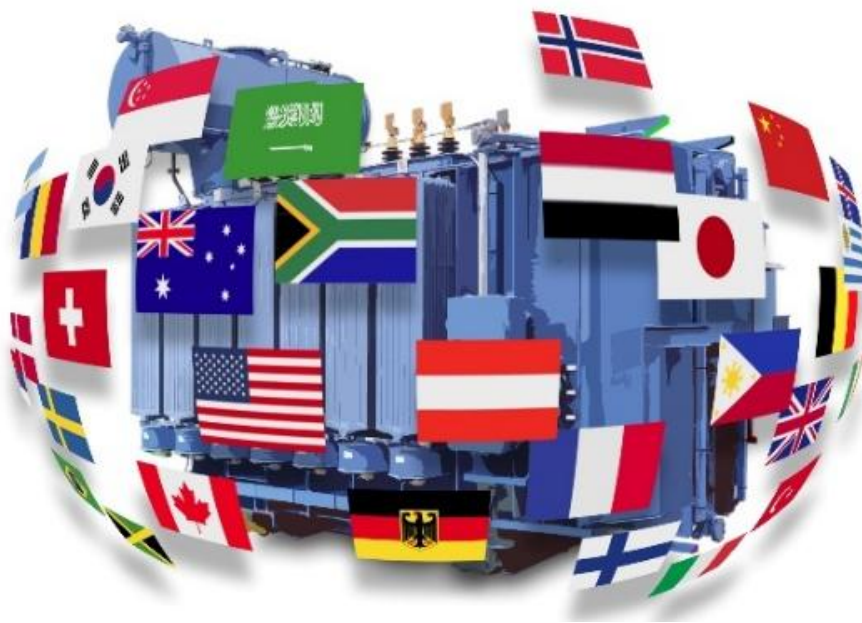
4. Determination of market size The preferred method of estimating the market is by listing the companies producing transformers in each country and calculating the market as “production + imports – exports”. 521 companies are tracked in 57 countries. Detailed company data is not available in 27 countries and demand is estimated from the growth in MVA capacity multiplied by \$/kVA.

Statistical accuracy analysis

The statistical analysis of accuracy and error is carried out with statistical procedures employed as a matter of course by research scientists and engineers.

- ◆ Each of many hundred independent variables (production, imports, exports, MVA capacity growth, price in \$/kVA) is subject to one or more sources of error and assessed independently.
- ◆ The data was then subjected to statistical analysis of propagation of error with standard statistical formulae.
- ◆ This analysis was consolidated through stages to achieve the final calculation of the accuracy.

The individual error may be large, sometimes over 100%, especially in small values. When combined, all the uncertainties propagate to the error in the total function, which can be calculated with a statistical formula which assumes that the errors are random and uncorrelated.



The author: Euan Blauvelt has over 35 years' experience in market research in the electrical industry in Asia and Europe. After being Deputy Chairman of the Survey Research Group in Asia and partner in ABS Energy Research, he founded StatPlan Energy Research in 2010, specialising in the electrical sector and providing market reports, global databases and forecasts for electricity supply, T&D, the transformer, energy metering and cable markets. He has been responsible for each of the 12 editions of the StatPlan Transformer Report.

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