
Description: Global capital expenditure on generation, transmission and distribution is estimated at $749 billion in 2015, rising to a nominal value of $766 billion in 2016 and to $953 billion in 2020. In 2016 the total was composed of $430 billion for generation, $102 billion for transmission and $218 billion for distribution. In 2015 generation accounted for 57% of capex with a total of $430 billion, transmission for 14% at $102 billion and distribution and distribution for 29% with $218 billion. Generation's share fell from 67% in 2000 to 57% in 2015 and will fall to 55% in 2020.

Expenditure on generation totalled $2.4 trillion on generation between 2000 and 2010 and in the following decade from 2010 to 2020 it will almost double to $4.4 trillion, an increase of 88%. Transmission will grow even more, rising by 137% from $458 billion to $1,033 billion and distribution rising more slowly by 123% but in a greater value, from $1,014 billion to $2,205 billion.

In 2015 generation accounted for 57% of capex, transmission for 14% and distribution for 29%.

Chapter Overview:

1. Introduction To The Power Sector - The scale of the power sector is outlined as an introduction, in capacity and $ with commentary on its composition by the constituent sectors - generation, transmission and distribution (GTD).

2. Utility Sectors - The 135,000 electricity, gas and water & waste utilities are shown regionally on a global map and the 11,000 electrical utilities are analysed by region and major country, with a breakdown of public/private ownership. A table summarises the electrical utility sector in every country.

3. Other Utility Sectors, As Generators And Consumers - The other utilities are identified - oil, gas, water & waste, telecoms, railways - they are large generators and consumers of electricity, and some have dedicated transmission and distribution networks.

4. Industrial And Captive Generation - Industry is a significant generator of power and an even larger consumer, drawing from the grid more than it supplies in most but not all countries. Industry is an important owner of transmission and distribution assets such as transformers. “Hidden power “, mostly private generators under 1 MW, is a segment attracting increasing attention and has been underestimated in the past.

5. Consumers Of Electricity As Investors - Use by end-sector, with further analysis by type of industrial use and purpose of use.

6. Capital Expenditure - Capex is plotted globally from 2000 to 2015 and forecast to 2020, with analysis by segment: generation, transmission and distribution and summarised with analysis by energy source from 2000 to 2020; coal, gas, oil, nuclear, wind, utility solar PV, rooftop solar PV. The rapid growth of small solar PV is demonstrated. The composition of capex is analysed.

7. Generation Capex By Energy Source - Generating capex is analysed by energy source (see previous chapter details) for the world, 7 regions and 11 major countries, at eight intervals in the PDF - 1990, 2000 and annually from 2015 to 2020 - and in the Excel database annually from 1980 to 2020. The current status and prospects for each energy source are discussed.

8. Generation Technologies - The composition of plant for the various generating technologies is outlined and analysed by share of cost, for the following technologies: coal fired plants, gas turbine simple cycle (OCGT), gas turbine combined cycle (CCGT), oil-fired steam turbine plant, diesel engine-generator, wind turbine, solar photovoltaic, hydropower and nuclear power.

9. T&D Capex - Transmission and distribution capex is plotted for the world, 7 regions and 11 major countries, at eight intervals in the PDF for 1990, 2000 and annually from 2015 to 2020 - and in the Excel
10. Definition Of The Power Sector Equipment Market - The power sector is defined, with broad parameters to include electrical utilities, IPPS, industrial captive generation and small scale distributed generation. In the generating sector it is important to understand the overlap of mechanical equipment, which constitutes over ¾ of equipment expenditure in the power generation sector, between electrical uses and mechanical uses, such as heat and steam output in district heating and industrial process. Plants such as industrial boilers are a large component in fossil fuel power generation but they have even larger applications in other industries.

11. Regional And National Equipment Markets For Generation, Transmission And Distribution Equipment By Geography - Country markets are analysed by product, with sales of total generating, transmission and distribution equipment in nominal values in the PDF - for 1990, 2000 and annually from 2015 to 2020 - and in the Excel database annually from 1980 to 2020 for the world, 7 regions and 11 major countries. Generating products include: boilers, steam turbines, gas turbines, HRSG (heat recovery steam generators), diesel & HFO engines, wind turbines, hydro turbines, solar PV modules, solar PV inverter, FGD (flue gas desulphurisation), SCR/SNCR (selective catalytic reduction/selective non-catalytic reduction), PM (particulate matter removal); ESP, scrubbers, fabric filters/baghouses), CPP (coal preparation plant), fly ash handling plant, insulated cable, compressors, piping, instruments and control equipment, GSU generator transformers, GCB (generator circuit breakers), switchgear and power plant automation.

Transmission and distribution products include transformers, switchgear, circuit breakers, circuit protectors, surge arresters, distribution panels, fusegear, switches, disconnectors, protection relays, lightning arresters, isolators, energy cable - insulated and uninsulated conductors, insulators and bushings, spacers and dampers, HVDC, AC filters for HVDC, steel towers, poles of wood, concrete, steel and composite, pole-top assemblies, meters and utility automation.


Vendor shares or rankings are provided for the individual categories/products and sections have marketing and technical commentary. Where available these have been supplemented with extracts from dedicated StatPlan product marketing reports, with higher levels of detail.

13. Mechanical And Electrical Equipment In Generation, Transmission And Distribution By Region - Product markets for mechanical generating equipment are analysed by country, in nominal values in the PDF - for 1990, 2000 and annually from 2015 to 2020 - and in the Excel database annually from 1980 to 2020 for the world, 7 regions and 11 major countries. Products include transformer, circuit breakers, energy cable - insulated and uninsulated conductors, utility automation and power plant automation.

Vendor shares or rankings are provided for the individual categories/products and sections have marketing and technical commentary. Where available these have been supplemented with extracts from dedicated StatPlan product marketing reports, with higher levels of detail.

14. Sales Of Transmission And Distribution Equipment Markets By Region - Product markets for T&D equipment are analysed by country, in nominal values in the PDF - for 1990, 2000 and annually from 2015 to 2020 - and in the Excel database annually from 1980 to 2020 for the world, 7 regions and 11 major countries. Products include switchgear, circuit protectors, surge arresters, distribution panels, fusegear, switches, disconnectors, protection relays, lightning arresters, isolators, insulators and bushings, spacers and dampers, HVDC, AC filters for HVDC, steel towers, poles of wood, concrete, steel and composite, pole-top assemblies, meters.

Vendor shares or rankings are provided for the individual categories/products and sections have marketing and technical commentary. Where available these have been supplemented with extracts from dedicated StatPlan product marketing reports, with higher levels of detail.
15. The Value Chain - From Materials To Capex - The cost of any product can be measured at various stages, from being a piece of unworked metal, to its installation in working order and finally as a share of capital expenditure. Different price levels apply through the supply chain, and the point of interest in the chain depends on the business to which the value is being applied. The report analyses the value chain at 6 levels, from BOM (bill of materials) to capex, with all market-ups included. In using the market information in this and other reports it is essential to specify which point in the value chain is being used. Capex can be 2½ times the factory gate price, over 3 times manufacturing cost and 5 times materials cost.

16. Price Trends And Factors Driving Prices - In recent years the prices of electrotechnical products have been volatile due to variations in many factors which affect them. Price trends are reviewed with commentary on PPI - Producer Price Index, industry trends, production capacity, and the manufacturing input cost composition.
Asia Pacific
Japan
China
India
Southeast Asia
Middle East
Africa
Latin America
Brazil

12. Sales of Mechanical Generation Plant By Region
The Total Generating Equipment Market
Vendors
Boilers
Steam Turbines
Gas Turbines
HRSG, Heat Recovery Steam Generators
Diesel & HFO Engines
Wind Turbines
Hydro Turbines
Solar PV Modules
Solar PV Inverters
FGD Flue Gas Desulphurisation
SCR, Selective Catalytic Reduction/SCNR Selective Non-Catalytic Reduction
PM, Particulate Removal; Esp, Scrubbers, Fabric Filters/Baghouses
CPP, Coal Preparation Plant
Fly Ash Handling Plant
Compressors
Piping
Instruments And Control Equipment

13. Mechanical And Electrical Equipment in Generation, Transmission And Distribution By Region
Transformer Categories
Circuit Breakers
Energy Cable - Insulated And Uninsulated Conductors
Utility Automation
Power Plant Automation
Utility Automation - Transmission And Distribution

14. Sales of Transmission And Distribution Equipment Markets By Region
Vendors
Switchgear
Circuit Protectors
Surge Arresters
Distribution Panels
Fusegear
Switches
Disconnectors
Protection Relays
Lightning Arresters
Isolators
Insulators And Bushings, Spacers And Dampers
Spacers And Dampers
HVdc
Ac Filters for HVdc
Steel Towers
Poles of Wood, Concrete, Steel And Composite
Pole-Top Assemblies
Meters

15. the Value Chain - from Materials to Capex
The Value Chain at 6 Levels
16. Price Trends And Factors Driving Prices

Price Trends
Ppi - Producer Price Index
Industry
Production Capacity
Manufacturing Input Cost Composition

Methodology
Market Sizing And Bottom Up Forecasting
The Sanity Check And Validation

Figures
Figure 1: the Global Utility Landscape
Figure 2: Industry Uses of Different Energy Sources in the Us
Figure 3: Energy Use By Type of Industry in the Us (All Types of Energy)
Figure 4: % of Total Machine Drive Electricity Used in Manufacturing in the Us
Figure 5: Machine Drive Electricity Use As a % of Total Delivered Energy Use By Each Industry in the Us
Figure 6: Total Global Capital Expenditure On Gtd, Nominal $ Billion 2000 to 2020
Figure 7: Comparison of Expenditure On Gtd in Real ($2015) And Nominal Values, 2000-20
Figure 8: Global Capital Expenditure Broken By Gtd, Nominal $ Billion, 2000 to 2020
Figure 9: Total Capex in Gtd, 2000-10 Compared With 2010-20.
Figure 10: Investment Surges 1900 To2015
Figure 11: Total Capital Expenditure On Gtd, By Region in 2016
Figure 12: Capital Expenditure On Generation By Energy Source, Nominal $ Billion2000 to 2020,
Figure 13: Total Capital Expenditure On Gtd By Region And Year, Nominal $ Billion, 2000, 2010, 2020
Figure 14: Composition of Global Capital Expenditure Gtd, 2015
Figure 15: Where Circuit Breakers Are Used in Electricity Systems
Figure 16: Commodity Price Index 1996 to 2016
Figure 17: Industrial Metals Prices 2007 to 2016
Figure 18: Labour Compensation Cost, Including Direct Pay, Social Insurance Expenditures, And Labour-Related Taxes (Us = 100).
Figure 19: Labour Costs Including Wages And Salaries, Social Insurance And Labour-Related Taxes
Figure 20: Minimum Wages in China in Yuan Per Month 1995 to 2012
Figure 21: the Composition of Annual Demand for Capacity, New Plus Replacement

Tables
Table 1: Ownership of Assets in the Power Sector By Owner Type
Table 2: the World'S Electrical Utility Landscape
Table 3: Infrastructure of Utilities
Table 4: Indian Utilities' Generating Capacity 1947 -2015 By Fuel
Table 5: Indian Captive Power Plant Generating Capacity 1947 -2015 By Fuel
Table 6: Sale of Diesel Gensets in India By International Manufacturers > 1 Mw from 1990 to 2004
Table 7: World - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 8: Usa - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 9: Europe - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 10: France - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 11: Germany - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 12: Italy - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 13: Spain - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 14: United Kingdom - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 15: Cis - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 16: Russia- Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 17: Asia Pacific - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 18: Japan - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 19: China - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 20: India - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 21: Korea, Australasia - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 22: South East Asia - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 23: Middle East - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 24: Africa - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 25: Lac - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 26: Brazil - Generation Capex By Technology, Nominal $ Million, 2000 to 2020
Table 27: Composition of Generation Capex Over All Technologies, 2000 And 2015
Table 28: Some Principal Cost Components of Generating Capex
Table 29: Cost Breakdown of Capex in Construction of a Coal Fired Plant (Equipment at Installed Cost)
Table 30: Cost Breakdown of Capex in Construction of Gas-Fired Ocgt Or Ccgt Plant (Equipment Costs at Installed Cost)
Table 31: Cost Breakdown of Capex in Construction of An Oil-Fired Steam Turbine Plant (Equipment Costs at Installed Cost)
Table 32: Cost Breakdown of Capex in Construction of a Diesel Or Fuel Oil Reciprocating Engine Plant (Equipment Costs at Installed Cost)
Table 33: Cost Breakdown of Capex in Construction of a Wind Turbine (Equipment Costs at Installed Cost)
Table 34: Cost Breakdown of Capex in Construction of a Solar Pv Plant (Equipment at Installed Cost)
Table 35: Cost Breakdown of Capex in Construction of a Hydropower Plant (Equipment Costs at Installed Cost)
Table 36: Cost Breakdown of Capex in Construction of a Nuclear Power Plant (Equipment Costs at Installed Cost)
Table 37: World - T&D Capex By Technology, Nominal $ Million, 2000 to 2020
Table 38: Usa - T&D Capex, Nominal $ Million, 2000 to 2020
Table 39: Europe - T&D Capex, Nominal $ Million, 2000 to 2020
Table 40: France - T&D Capex, Nominal $ Million, 2000 to 2020
Table 41: Germany - T&D Capex, Nominal $ Million, 2000 to 2020
Table 42: Italy - T&D Capex, Nominal $ Million, 2000 to 2020
Table 43: Spain - T&D Capex, Nominal $ Million, 2000 to 2020
Table 44: United Kingdom - T&D Capex, Nominal $ Million, 2000 to 2020
Table 45: Cis - T&D Capex, Nominal $ Million, 2000 to 2020
Table 46: Russia- T&D Capex, Nominal $ Million, 2000 to 2020
Table 47: Asia Pacific - T&D Capex, Nominal $ Million, 2000 to 2020
Table 48: Japan - T&D Capex, Nominal $ Million, 2000 to 2020
Table 49: China - T&D Capex, Nominal $ Million, 2000 to 2020
Table 50: India - T&D Capex, Nominal $ Million, 2000 to 2020
Table 51: Southeast Asia - T&D Capex, Nominal $ Million, 2000 to 2020
Table 52: Middle East - T&D Capex, Nominal $ Million, 2000 to 2020
Table 53: Africa - T&D Capex, Nominal $ Million, 2000 to 2020
Table 54: Lac - T&D Capex, Nominal $ Million, 2000 to 2020
Table 55: Brazil - T&D Capex, Nominal $ Million, 2000 to 2020
Table 56: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, World, 2000-20
Table 57: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, World, 2000-20
Table 58: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, World, 2000-20
Table 59: Ratio of Sales of Mechanical And Electrical Equipment in Generation And T&D, 2000 to 2020
Table 60: Generation Equipment Cost at Purchase Price in Nominal $ Million, World, 2000 to 2020
Table 61: Transmission Equipment Cost at Purchase Price in Nominal $ Million, World, 2000-20
Table 62: Distribution Equipment Cost at Purchase Price in Nominal $ Million, World, 2000-20
Table 63: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Usa, 2000-20
Table 64: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Usa, 2000-20
Table 65: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Usa, 2000-20
Table 66: Generation Equipment Cost at Purchase Price in Nominal $ Million, United States, 2000 to 2020
Table 67: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Usa, 2000-20
Table 68: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Usa, 2000-20
Table 69: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Europe, 2000 to 2020
Table 70: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Europe, 2000-20
Table 71: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Europe, 2000-20
Table 72: Generation Equipment Cost at Purchase Price in Nominal $ Million, Europe, 2000 to 2020
Table 73: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Europe, 2000-20
Table 74: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Europe, 2000-20
Table 75: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, France, 2000-20
Table 76: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, France, 2000-20
Table 77: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, France, 2000-20
of Capex, France, 2000-20
Table 78: Generation Equipment Cost at Purchase Price in Nominal $ Million, France, 2000 to 2020
Table 79: Transmission Equipment Cost at Purchase Price in Nominal $ Million, France, 2000-20
Table 80: Distribution Equipment Cost at Purchase Price in Nominal $ Million, France, 2000-20
Table 81: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Germany, 2000 to 2020
Table 82: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Germany, 2000-20
Table 83: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Germany, 2000-20
Table 84: Generation Equipment Cost at Purchase Price in Nominal $ Million, Germany, 2000 to 2020
Table 85: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Germany, 2000-20
Table 86: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Germany, 2000-20
Table 87: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Italy, 2000 to 2020
Table 88: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Italy, 2000-20
Table 89: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Italy, 2000-20
Table 90: Generation Equipment Cost at Purchase Price in Nominal $ Million, Italy, 2000 to 2020
Table 91: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Italy, 2000-20
Table 92: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Italy, 2000-20
Table 93: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Spain, 2000 to 2020
Table 94: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Spain, 2000-20
Table 95: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Spain, 2000-20
Table 96: Generation Equipment Cost at Purchase Price in Nominal $ Million, Spain, 2000 to 2020
Table 97: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Spain, 2000-20
Table 98: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Spain, 2000-20
Table 99: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, United Kingdom, 2000 to 2020
Table 100: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, United Kingdom, 2000-20
Table 101: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, United Kingdom, 2000-20
Table 102: Generation Equipment Cost at Purchase Price in Nominal $ Million, United Kingdom, 2000 to 2020
Table 103: Transmission Equipment Cost at Purchase Price in Nominal $ Million, United Kingdom, 2000-20
Table 104: Distribution Equipment Cost at Purchase Price in Nominal $ Million, United Kingdom, 2000-20
Table 105: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Cis, 2000 to 2020
Table 106: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Cis, 2000-20
Table 107: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Cis, 2000-20
Table 108: Generation Equipment Cost at Purchase Price in Nominal $ Million, Cis, 2000 to 2020
Table 109: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Cis, 2000-20
Table 110: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Cis, 2000-20
Table 111: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Russia, 2000 to 2020
Table 112: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Russia, 2000-20
Table 113: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Russia, 2000-20
Table 114: Generation Equipment Cost at Purchase Price in Nominal $ Million, Russia, 2000 to 2020
Table 115: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Russia, 2000-20
Table 116: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Russia, 2000-20
Table 117: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Asia Pacific, 2000 to 2020
Table 118: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Asia Pacific, 2000-20
Table 119: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share
of Capex, Asia Pacific, 2000-20
Table 120: Generation Equipment Cost at Purchase Price in Nominal $ Million, Asia Pacific, 2000 to 2020
Table 121: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Asia Pacific, 2000-20
Table 122: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Asia Pacific, 2000-20
Table 123: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Japan, 2000 to 2020
Table 124: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Japan, 2000-20
Table 125: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Japan, 2000-20
Table 126: Generation Equipment Cost at Purchase Price in Nominal $ Million, Japan, 2000 to 2020
Table 127: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Japan, 2000-20
Table 128: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Japan, 2000-20
Table 129: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, China, 2000 to 2020
Table 130: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, China, 2000-20
Table 131: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, China, 2000-20
Table 132: Generation Equipment Cost at Purchase Price in Nominal $ Million, China, 2000 to 2020
Table 133: Transmission Equipment Cost at Purchase Price in Nominal $ Million, China, 2000-20
Table 134: Distribution Equipment Cost at Purchase Price in Nominal $ Million, China, 2000-20
Table 135: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, India, 2000 to 2020
Table 136: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, India, 2000-20
Table 137: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, India, 2000-20
Table 138: Generation Equipment Cost at Purchase Price in Nominal $ Million, India, 2000 to 2020
Table 139: Transmission Equipment Cost at Purchase Price in Nominal $ Million, India, 2000-20
Table 140: Distribution Equipment Cost at Purchase Price in Nominal $ Million, India, 2000-20
Table 141: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Southeast Asia, 2000 to 2020
Table 142: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Southeast Asia, 2000-20
Table 143: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Southeast Asia, 2000-20
Table 144: Generation Equipment Cost at Purchase Price in Nominal $ Million, Southeast Asia, 2000 to 2020
Table 145: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Southeast Asia, 2000-20
Table 146: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Southeast Asia, 2000-20
Table 147: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Middle East, 2000 to 2020
Table 148: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Middle East, 2000-20
Table 149: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Middle East, 2000-20
Table 150: Generation Equipment Cost at Purchase Price in Nominal $ Million, Middle East, 2000 to 2020
Table 151: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Middle East, 2000-20
Table 152: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Middle East, 2000-20
Table 153: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Africa, 2000 to 2020
Table 154: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Africa, 2000-20
Table 155: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Africa, 2000-20
Table 156: Generation Equipment Cost at Purchase Price in Nominal $ Million, Africa, 2000 to 2020
Table 157: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Africa, 2000-20
Table 158: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Africa, 2000-20
Table 159: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Latin America, 2000 to 2020
Table 160: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Latin America, 2000-20
Table 161: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Latin America, 2000-20
of Capex, Lac, 2000-20

Table 162: Generation Equipment Cost at Purchase Price in Nominal $ Million, Latin America, 2000 to 2020
Table 163: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Lac, 2000-20
Table 164: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Lac, 2000-20
Table 165: Generation Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Brazil, 2000 to 2020
Table 166: Transmission Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Brazil, 2000-20
Table 167: Distribution Equipment Cost in Nominal $ Million, at Purchase Price, at Installed Cost And % Share of Capex, Brazil, 2000-20
Table 168: Generation Equipment Cost at Purchase Price in Nominal $ Million, Brazil, 2000 to 2020
Table 169: Transmission Equipment Cost at Purchase Price in Nominal $ Million, Brazil, 2000-20
Table 170: Distribution Equipment Cost at Purchase Price in Nominal $ Million, Brazil, 2000-20
Table 171: Sales of Generation Equipment at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 172: Market Shares of Generating Equipment Vendors, 2015
Table 173: Sales of Boilers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 174: Leaders in Industrial Boiler Production
Table 175: Sales of Steam Turbines, Generators & Condensers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 176: Market Shares of Steam Turbo Vendors, 2015
Table 177: Sales of Gas Turbine & Generators at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 178: Market Shares of Gas Turbine Vendors, 2015
Table 179: Sales of Hrsg Heat Recovery Steam Generators at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 180: Leaders in Hrsg Production
Table 181: Sales of Hfo/Diesel Reciprocating Engines at Purchase Price By Region And Country in
Table 182: Diesel Engine Vendors
Table 183: Sales of Wind Turbine at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 184: Global Market Shares of Wind Turbine Manufacturers, 2015
Table 185: Global Market Shares of Off-Shore Wind Turbine Manufacturers, 2015
Table 186: Types of Hydro Turbine With Applications
Table 187: Sales of Hydro Turbine, Generator And Regulators at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 188: Global Market Shares of Off-Shore Wind Turbine Manufacturers, 2015
Table 189: Sales of Solar Pv Modules at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 190: Global Market Ranking of Top 10 Solar Pv Manufacturers, Ranked By Mw Shipped, 2014
Table 191: Sales of Solar Pv Inverters at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 192: Global Market Ranking of Top 7 Solar Inverter Manufacturers, Ranked By Value, 2015
Table 193: Sales of Fgd Flue Gas Desulphurization at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 194: Top Fgd Vendors
Table 195: Sales of Scr Selective Catalytic Reduction at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 196: Top Scr Vendors
Table 197: Sales of Particulate Removal (Esp, Scrubbers, Baghouse) at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 198: Top Pm Removal Vendors
Table 199: Sales of Cpp Coal Preparation Plant at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 200: Sales of Fly Ash Handling Plant at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 201: Top Coal Handling Vendors
Table 202: Sales of Compressors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 203: Compressor Manufacturers
Table 204: Sales of Piping at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 205: Piping Companies/Installers Market Share in China
Table 206: Sales of Instruments And Control Equipment at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 207: Sales of GSU Generator Transformers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 208: Sales of Power Transformers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 209: Sales of Distribution Transformers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 210: Transformer Manufacturers Market Shares
Table 211: Sales of Gcb Generator Circuit Breakers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 212: Sales of HV Circuit Breakers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 213: Sales of MV Circuit Breakers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 214: Gcb Circuit Breakers And Switchgear Market Shares
Table 215: Cable Types
Table 216: Sales of Insulated Cable in the Generation Sector at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 217: Sales of HV Insulated Cable in the Transmission Sector Including HV Subsea Cable at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 218: Sales of MV And LV Insulated Cable Including MV Subsea Cable at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 219: Sales of HV Bare Condutors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 220: Sales of MV And LV Bare Condutors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 221: the Top Global Cable Manufacturers By Industry
Table 222: Cable Manufacturers Global Market Shares By Country
Table 223: Sales of Generator Utility Automation at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 224: Sales of Automation Technology for Transmission Networks at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 225: Sales of Distribution Automation Including Scada at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 226: Sales of Transmission Equipment at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 227: Sales of Distribution Equipment at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 228: Overall T&D Market Leaders
Table 229: Voltage Levels in Switchgear Categories
Table 230: Sales of Transmission Circuit Protectors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 231: Sales of Distribution Circuit Protectors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 232: Sales of Transmission Surge Arresters Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 233: Sales of Distribution Surge Arresters Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 234: Sales of Distribution Panels at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 235: Sales of Air Core Reactors for Transmission at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 236: Sales of Air Core Reactors for Distribution at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 237: Sales of Transmission Fusegear at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 238: Sales of Distribution Fusegear at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 239: Sales of Transmission Switches at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 240: Sales of Distribution Switches at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 241: Sales of Disconnectors for Transmission at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 242: Sales of Disconnectors for Distribution at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 243: Sales of Protection Relays for Transmission at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 244: Sales of Protection Relays for Distribution at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 245: Sales of Lightning Arresters for Transmission at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 246: Sales of Lightning Arresters for Distribution at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 247: Sales of Isolators for Transmission at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 248: Sales of Isolators for Distribution at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 249: Switchgear Market Shares, 2015
Table 250: Sales of HV Insulators And Bushings at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 251: Sales of MV And LV Insulators And Bushings at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 252: Sales of HV Spacers And Dampers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 253: Sales of MV Spacers And Dampers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 254: Number of Hvdc Installations
Table 255: Sales of Hvdc Capacitors at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 256: Sales of Ac Filters at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 257: Hvdc Vendors Share By Mw Capacity
Table 258: Sales of Steel Transmission Towers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 259: Sales of Steel Primary Distribution Towers at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 260: Sales of Sub-Transmission Poles at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 261: Sales of Distribution Poles at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 262: Sales of Pole-Top Assemblies Excluding Insulators for Sub-Transmission Poles at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 263: Sales of Pole-Top Assemblies Excluding Insulators for Distribution Poles at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 264: Sales of Grid, Commercial And Industrial Meters at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 265: Sales of Residential Meters at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 266: Sales of Hv Smart Grid Technology for Transmission Networks at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 267: Sales of Mv Smart Grid Technology for Distribution Networks at Purchase Price By Region And Country in Nominal $ Million, 2000 to 2020
Table 268: Global Meter Market Shares 2015
Table 269: Costs And Mark-Up from Bill of Materials to Capex
Table 270: Products And Technologies Used in Generating Plants
Table 271: Products And Technologies Used in Transmission
Table 272: Products And Technologies Used in Distribution

Ordering: 
Order Online - http://www.researchandmarkets.com/reports/3787941/
Order by Fax - using the form below
Order by Post - print the order form below and send to Research and Markets,
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct and select the format(s) you require.

Web Address: http://www.researchandmarkets.com/reports/3787941/
Office Code: SCH3CPNJ

Product Formats
Please select the product formats and quantity you require:

- PDF and Excel - Single User: □ USD 5252
- PDF and Excel - 1 - 20 Users: □ USD 9192
- PDF and Excel - Enterprisewide: □ USD 13131

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: □ Mr □ Mrs □ Dr □ Miss □ Ms □ Prof □
First Name: ___________________________ Last Name: ___________________________
Email Address: * ___________________________
Job Title: ___________________________
Organisation: ___________________________
Address: ___________________________
City: ___________________________
Postal / Zip Code: ___________________________
Country: ___________________________
Phone Number: ___________________________
Fax Number: ___________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:

Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:

<table>
<thead>
<tr>
<th>Account number</th>
<th>833 130 83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sort code</td>
<td>98-53-30</td>
</tr>
<tr>
<td>Swift code</td>
<td>ULSBIE2D</td>
</tr>
<tr>
<td>IBAN number</td>
<td>IE78ULSB98533083313083</td>
</tr>
<tr>
<td>Bank Address</td>
<td>Ulster Bank, 27-35 Main Street, Blackrock, Co. Dublin, Ireland.</td>
</tr>
</tbody>
</table>

If you have a Marketing Code please enter it below:

Marketing Code: ____________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp