

Abbreviations & Glossary

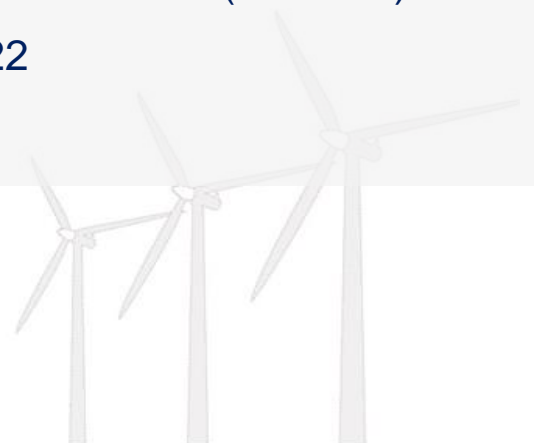
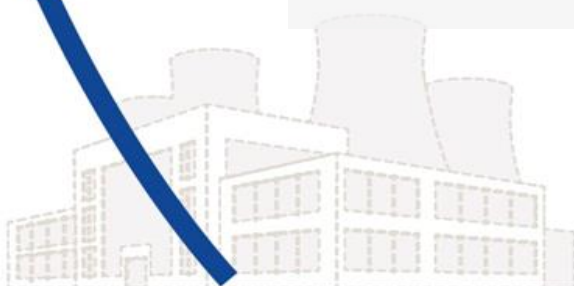


Abbreviations & Glossary

Multi-Year Price Determination (MYPD 4)

FY2019/20 - 2021/22

September 2018



Contents

Abbreviation List.....3

Glossary11

Abbreviation List

ABOM	Agreement Between Operating Members
AFS	Audited Financial Statements
AM	Asset Management
AS	Ancillary Services
ATKSS	Ankerlig Transmission Koeberg Second Supply Project
BBBEE	Broad-based Black Economic Empowerment
BCM	Business Continuity Management
BI	Business Intelligence
BTC	Board Tender Committee
c/kvarh	Cents per reactive kilovolt-ampere-hour
CAD	Corporate Affairs Division
CAGR	Compounded Average Growth Rate
Capex	Capital Expenditure
CCI	Coal Cost Index
CC&B	Customer Care and Billing
CEES	Cause, Effect, Entitlement, and Substantiation
CED	Capacity Expansion Department
CFL	Compact Fluorescent Lamp
CGAS	Constrained Generation Ancillary Service
CGE	Computable General Equilibrium
CLN	Customer Load Network
CM	Corrective Maintenance
CMF	Catchment Management Fee
CMMS	Computerized Maintenance Management System
CMO	Contracts Management Office
CNC	Customer Network Centre
CO	Commercial Operation
COC	Cost of Cover
CorrISA	Corrosion Institute of Southern Africa
CPA	Contract Price Adjustments
CPI	Consumer Price Index
CRIEPE	Central Research Institute for the Electric Power Industry in Japan
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research

CSP	Concentrated Solar Power
CT	Current Transformer
CUC	Capital Unit Charge
CVT	Capacitor Voltage Transformer
DAM	Day-ahead Market
DDP	Due Date Performance
DER	Distribution Energy Resources
DFI	Development Financial Institution
DLF	Distribution Loss Factor
DLSI	Distribution Supply Loss Index
DMP	Demand Market Participation
DOE	Department of Energy
DPE	Department of Public Enterprises
DPP-TC	Deliver Projects Processes Technical Committee
DR	Demand Response
DSM	Demand-Side Management (see definitions)
DTC	Design to Cost
DUOS	Distribution use-of-system
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
Dx	Distribution
EA	Environmental Authorisation
EAF	Energy Availability Factor (see definitions)
EAL	Eskom Academy of Learning
ECA	Export Credit Agency
ECM	Enterprise Content Management
ECS	Energy Conservation Scheme
EDI	Electricity Distribution Industry
EE	Energy Efficiency
EEDSM	Energy Efficiency and Demand-side Management
EHV	Extra High Voltage
EIA	Environmental Impact Assessment
EIMP	Environmental Impact Management Plan
EIMS	Eskom Insurance Management Services
ELINI	European Liability Insurance for the Nuclear Industry
EMANI	European Mutual Association for Nuclear Insurance
EPC	Engineering, Procurement and Construction
EPMO	Eskom Project Management Office
EPP	Electricity Pricing Policy

EPRI	Electricity Power Research Institute
ERE	Eskom Real Estate
ERTSA	Eskom Retail Tariff Structural Adjustment
ESA	Electricity Storage Association
ESR	Electrification and Rural Subsidy
ESCO	Energy Services Company
ESI	Electricity Supply Industry
EU	European Union
EUF	Energy Utilisation Factor
EUTC	European Utility Telecommunication Committee
EWSETA	Energy and Water Sector Education and Training Authority
Exco	Executive Management Committee
FA	Fuel Assemblies
FAT	Factory Acceptance Test
FCA	Free Carrier Agreement
FFF	Fossil Fuel Foundation
FGD	Flue Gas Desulphurisation
FIDIC	Fédération Internationale Des Ingénieurs – Conseils
FMS	Fleet Management Services
FOB/FOT	Free on board/free on truck (see definitions)
FPM	Forward Physical Market
FY	Financial Year
GCD	Group Capital Division
GCS	Group Customer Services
GDP	Gross Domestic Product
GFC	Group Financial Controller
GIS	Geographic Information System
GO	General Overhaul
GOIC	Generation Capital Investment Committee
GSFA	Government Support Framework Agreement
GW	Gigawatt
GWh	Gigawatt-hour (1 000MWh)
Gx	Generation Division
HCB	Hydro Cohara Bassa
HPUM	High Performance Utility Model
HRM	Human Resource Management
HV	High Voltage
HVAC	High-voltage alternating current or heating, ventilation and air-conditioning (depending on context)

HVDC	High-voltage Direct Current
IBT	Inclining Block Tariff
ICT	Information and Communication Technology
IDC	Interest During Construction
IDM	Integrated Demand Management
IDM	Intra-Day Market
IEA	International Energy Agency
IEC	International Electro-technical Commission
IEP	Integrated Energy Plan
IERE	International Energy Research Exchange
IESO	Independent Electricity System Operator
IFC	Investment Finance Committee
IGMOU	Inter-Governmental Memorandum of Understanding
ILS	Interruptible Load Shedding
IM	Information management
IMF	International Monetary Fund
IN	Boiler Inspection
IPP	Independent Power Producer (see definitions)
IPS	Interconnected Power System
IR	Interim Repair
IRP	Integrated Resource Plan (also IRP 2010)
ISEP	Integrated Strategic Electricity Plan
IT	Information Technology
ITOMS	International Transmission Operations and Maintenance Study
IUMOU	Intra-Utility Memorandum of Understanding
IWBS	Integrated Work Breakdown Structure
KIC	Key Industrial Customers
KM	Kilometres
KOD	Knowledge Optimisation and delivery/knowledge on Demand
KPI	Key Performance Indicator
KRN	Key Revision Number
KSACS	Key Sales and Customer Services
kt	Kilotons (1 000 tons)
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour
KWS	Komati Water Scheme
KWSAP	Komati Water Scheme Argumentation Project
LCM	Life Cycle Model

LCMP	Life-Cycle Management Plan
LDO	Long Duration Outage
LED	Light-emitting Diode
LF	Load Factor
LMC	Limited Multi Contract
LOPP	Life of Plant Plans
LRMC	Long Run Marginal Cost
LSM	Living Standards Measure
LTAM	Long Term Asset Management
LTIR	Lost-time Incident Rate (see definitions)
MC	Marginal Cost
MCWAP	Mokolo Crocodile West Augmentation Project
MEAV	Modern Equivalent Asset Value
MFMA	Municipal Finance Management Act
MI	Megalitre/1 million litres
MIRTA	Minimum Information Required for Tariff Application
MKI	Medupi, Kusile & Ingula
MM	Minor Maintenance
MMS	Middelburg Mine Services
MPRDA	Mineral and Petroleum Resources Development
mSv	Millisievert
Mt	Million tons
MTO	Medium Term Outlook
MTPPP	Medium-term Power Purchase Programme
MTS	Main Transmission Substation
M&V	Measurement and Verification
MVA	Megavolt Ampere
MW	Megawatt (1 million watts)
MWh	Megawatt-hour (1 000kWh or 1 million watt-hours)
MWP	Megawatt Park
MYPD	Multi-Year Price Determination
NDM	Network Demand Management
NEC	National Engineering Contract
NEMWA	National Environmental Management Waste Act
Nersa	National Energy Regulator of South Africa
NGO	Non-Governmental Organisation
NIRP	National Integrated Resource Plan
NPA	Negotiated Pricing Agreement
NPV	Net Present Value

NTC	National Transmission Company
O/C mining	Opencast mining (see definitions)
OCGT	Open-cycle Gas Turbine
OCLF	Other Capability Loss Factor
ODC	Owners Development Cost
OHSAS	Occupational Health and Safety Standards
O&M	Operations and Maintenance
Opex	Operating Expenditure
OUs	Operating Unit
OVS	Online Vending System
PA	Partnership Agreement
PCLF	Planned capability loss factor
PDD	Project Development and Design
PED	Primary Energy Division
PEIC	Production Engineering Integration Coal
PFMA	Public Finance Management Act
PIRM	Project Integrated Resource Management
PLCM	Project Life Cycle Model
PLCP	Project life cycle process
PMO	Project Management Office
POD	Points of Delivery
PPA	Power-Purchase Agreement
PPI	Producer Price Index
PPPFA	Preferential Procurement Policy Framework Act
PQI	Power Quality Index
PSP	Private Strategic Partnerships
PSS	Project Support Services
PTM&C	Protection, Telecommunications, Metering & Control
PUC	Public Utility Commission
PV	Photo Voltaic
QOS	Quality of Supply
RAB	Regulatory Asset Base
RADAR	Research Direction Report
RBCT	Richards Bay Coal Terminal
RBM	Richards Bay Minerals
RCA	Regulatory Clearing Account
REIPP	Renewable Energy Independent Power Producer
RETEC	Renewable Energy Technical Evaluation Committee
R&E	Revenue and Expenses

RFI	Request for Information
RFP	Request for Proposal
RMB	Rand Merchant Bank
RMR	Residential Mass Roll-out
ROA	Return on Assets
ROI	Return on Investment
ROR	Rate of Return methodology
RPP	Renewable Power Plant
RSA	Republic of South Africa
R/t	Rand per ton
RT&D	Research, Testing and Development
RTS	Return to Service
SADC	Southern African Development Community
SAE	Southern African Energy
SAGC	South African Grid Code
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SAIRI	System average interruption restoration index
SALGA	South African Local Government Association
SANEDI	South African National Energy Development Institute
SAPP	Southern African Power Pool
SARS	South African Revenue Services
SBO	Single Buyer Office
SCADA	Supervisory Control and Data Acquisition
SCO	Synchronous Condenser Operation
SD&L	Supplier Development and Localisation
SGC	Supplier Grouping Code
SHEQ	Safety, Health, Environmental and Quality
S-IG	Sub-Investment Grade
SIRP	Strategic Integrated Resource Plan
SLA	Service Level Agreement
SM	System Minutes
SMS	Sandton Midrand Soweto
SO	System Operator
SOE	State Owned Entity
SPA	Special Pricing Agreement
SPU	Small Power Users
S&P	Standard and Poor's
SQI	Service Quality Incentive

ST	Short Term
STA	Source Testing Association
STPPP	Short Term Power Producer Programme
STS	Standard Transfer Specification
TCO	Total-cost-of-ownership
TCTA	Trans Caledon Tunnel Authority
TDP	Transmission Development Plan
TID	Token Identifier
TIPPS	Transmission Integrated Plant Performance System
TNSP	Transmission Network Service Provider
ToU	Time-of-Use
TSP	Transmission System Planner
TUOS	Transmission use-of-system
TWh	Terawatt Hour
TWI	The Welding Institute
Tx	Transmission
UCG	Underground Coal Gasification (see definitions)
UCLF	Unplanned Capability Loss Factor
UPGEM	University of Pretoria General Equilibrium Model
UoS	Use-of-system
URS	User Requirement Framework
US	United States
VPS	Virtual Power Station
VRESS	Vaal River Eastern Sub-System
VRESAP	Vaal River Eastern Sub-system Augmentation Project
VRT	Vaal River Tariff
VT	Voltage Transformer
W	Watt
WACC	Weighted Average Cost of Capital
WBS	Work breakdown structure
WEPS	Wholesale electricity price
WRC	Water Research Council
WUC	Work Under Construction
ZAR	South African Rand

Glossary

A

Abrasiveness index

The abrasive index is a measure of how much coal will cause abrasion and wear to the mechanical components of power plant and materials-handling plants. Good-quality coal has a low abrasiveness index.

Arrear debt as percentage of revenue

Total arrear debt/Total revenue multiplied by 100.

Ash content

This is a measure of the quality of ash and other non-combustible material in the coal. Good-quality coal has a low ash content.

B

Base-load plant

Power stations that are designed to operate continuously (usually coal-fired and nuclear stations).

C

Calorific value

A measure of coal's heat value, expressed in MJ/kg.

Coal imports

A term used within Eskom to denote coal supplied to a power station from a mine other than the station's tied colliery.

Combined cycle

Technology for producing electricity from otherwise lost waste heat as it exits from one or more gas (combustion) turbines.

Cost-plus coal contract

A historically used form of contract whereby Eskom pays the coal miner the actual cost of production plus a fee, providing the mine with a return on invested capital and a management fee.

D**Daily peak**

Maximum amount of energy demanded in one day by consumers.

Decommission

To remove a facility (for instance, a reactor) from service and store it safely.

Dedicated mine

A mine established to supply only one customer (for example, Eskom).

Debt: equity including long-term provisions

Net financial assets and liabilities plus non-current retirement benefit obligations and non-current provisions divided by total equity.

Debt service cover ratio

Cash generated from operations/(Net interest paid plus debt repaid excluding repayments on commercial paper).

Demand-side management

Activities to encourage consumers to use electricity more efficiently, regarding both when they use it and how much they use.

E**Electricity revenue per kWh**

Electricity revenue including environmental levy/kWh sales total.

Electricity operating costs per kWh

(Electricity related costs: Primary energy costs, net transfer pricing, employee benefit cost, depreciation and amortisation plus impairment loss and other operating expenses) / external sales in kWh.

Embedded derivative

Financial instrument that causes cash flows that would otherwise be required by a contract to be modified according to a specified variable such as currency.

Energy availability factor

Measure of a power station's availability, taking into account energy losses not under the control of plant management and internal non-engineering constraints.

Energy efficiency

Refers to measures to reduce energy without affecting the service provided/output by, for instance, installing more energy-efficient technologies.

F**Fixed base/indexed contracts**

A commonly used form of coal contract in which the base price is fixed, but is escalated each year by means of an agreed index. Primarily used by Eskom for buying coal from multiproduct mines.

Flashover

Electrical insulation breakdown.

Forced outage

An unanticipated emergency shutdown or breakdown of a generating unit, transmission line or other electrical facility.

Free basic electricity

Electricity deemed sufficient to provide basic electricity services to a poor household (currently set at 50kWh/month).

Free on board/truck/rail

The free on board price is the price paid for exported coal at the point before it is loaded onto a ship at the port of export. It excludes shipping and insurance costs required to transport the coal to the importing country. Free on truck and free on rail prices are similar terms, being the price of coal before it is uploaded at the source. With specific reference to coal purchased by Eskom, FOT refers to the point at which risk is transferred to Eskom. This is usually the point after the supplier's weighbridge. This FOT price excludes the cost of transporting the coal to an Eskom site.

Funds from operations

Cash generated from operations adjusted for working capital (excluding provisions) and net interest paid / received and non-current assets held for risk management.

Funds from operations as a percentage of gross debt

Funds from operations / gross debt multiplied by 100.

G**Gross debt**

Debt securities issued, borrowings, finance lease liabilities and financial trading liabilities plus the after tax effect of retirement benefit obligations and provisions for power station-related environmental restoration and mine-related closures.

Gross debt/EBITDA

Gross debt/earnings before interest, tax, depreciation and amortisation.

I**International financial reporting standards**

Global accounting standards issued by the International Accounting Standards Board that require transparent and comparable information.

Independent power producer

Any entity other than Eskom that owns or operates, in whole or in part, one or more independent power production facilities.

Interest cover

Operating profit before net finance cost / (net finance cost but before unwinding of discount on provisions, change in discount rate and borrowing cost capitalised).

Interruptible load

Load that can be interrupted in the event of capacity or energy deficiencies.

Interruptible power

A power supply that can be curtailed by the supplier, usually in agreement between Eskom and the customer.

J**Junior miner**

A generic term for a small-scale miner. Junior miners are often focused on exploration and early-stage development of mineral resources, but are mostly focused on mining of small deposits of reserves.

K**Kilowatt-hour**

Basic unit of electric energy equal to one kilowatt of power supplied to, or taken from, an electric circuit steadily for one hour. One kilowatt hour is 1 000 watt-hours.

L**Life of mine**

The design period over which a mine will extract coal.

Load

Amount of electric power delivered or required at any specific point on a system.

Load management

Activities to influence the level and shape of demand for electricity so that demand conforms to Eskom's supply capabilities, long-term objectives and constraints.

Load profile

Customer's electricity use over time, sometimes shown as a graph.

Load shifting

Transfer of loads from peak to off-peak periods.

Load-shedding

Scheduled rotation of available electricity capacity between customers to avoid blackouts when demand is greater than supply.

Lost-time incident rate

Proportional representation of injuries that cause lost working time over a 12-month period.

M**Maximum demand**

Highest demand of load within a specified period.

Mid-merit power generation

Installations that generate electricity when electricity demand is higher than average.

Mining Charter

An agreement reached between the state and mining companies that covers various business and technical principles under which coal and other mineral are mined.

Multiproduct mine

A mine that produces more than one coal product. In many instances multiproduct mines beneficiate the coal to meet export-quality requirements and supply the local market and Eskom with a by-product from the coal-beneficiation process.

O

Outage

Period during which a generating unit, transmission line or other facility is out of service.

Off-peak

Period of relatively low system demand

Opencast mining

A mining method whereby a coal seam is by means of a large pit. Also known as open-pit mining.

P

Peak demand

Maximum power used in a given period, traditionally between 7am–10am and 6pm–9pm.

Peaking capacity

Generating equipment normally operated only during hours of highest daily, weekly or seasonal loads.

Peak-load plant

Power stations that are only used during peak-load periods. Eskom uses its gas turbines and current pumped-storage scheme as peak-load plants.

Power pool

Two or more interconnected electricity supply systems that agree to coordinate operations and seek improved reliability and efficiencies.

Primary energy

Natural resources used in the production of electrical energy (for instance coal, liquid fuel, sunlight, wind, uranium).

Producer price index

An index published by Statistics South Africa that measures the year-on-year price inflation of producer goods and services in South Africa.

Pumped-storage scheme

A water-based electricity-generation system where a lower and an upper reservoir are linked by a power station/pumping plant. During off-peak periods the pump uses electricity to transport water from the lower to the upper reservoir. During peak demand, water runs back into the lower reservoir through turbines, generating electricity.

R**Reserve margin**

The difference between an electricity system's net generating capability and its maximum load requirements (during peak load or peak demand).

Return on average equity

Profit/loss for the year after tax / average total equity.

Return on average total assets

Profit/loss for the year after tax / average total assets.

Run of mine

Refers to coal that has been mined and transported to the surface, but has not been beneficiated.

S**Spent fuel**

Irradiated nuclear fuel that has permanently been removed from a nuclear reactor. Spent fuel is stored on site in spent-fuel pools or storage casks.

Stripping ratio

A ratio indicating how many tons of earth must be removed to extract one ton of coal. Deep coal and thin-seam coal have higher stripping ratios than shallow or thick-seam coal.

Global benchmark for measuring the severity of interruptions to customers. One system minute is equivalent to the loss of the entire system for one minute at annual peak.

T**Technical losses**

Naturally occurring losses that depend on the power systems used.

U**Underground coal gasification**

A technique to extract energy from coal in gaseous form without physically mining the coal. Eskom and Sasol are piloting this technology in South Africa. If successful, underground

coal gasification could be used to access coal reserves that are too deep or too faulted to be economically mined using other methods.

Underground mining

A mining method used to access coal seams that are too deep for opencast mining. It involves sinking vertical and include shafts down the coal seam for ventilation and the movement of people, machinery and coal. Mined coal is transported to the surface by means of an incline shaft conveyor. Underground mines are usually more expensive to operate and, depending on the mining method, may require more capital investment than opencast mines.

Unplanned automatic grid separations

A measure of the reliability of the service provided to the electrical grid that logs the number of supply interruptions per operating period.

Unit capability factor

A measure of a power station's availability indicating how well plant is operated and maintained.

Unplanned capability loss factor

All occasions when a power station unit has to be shut down and taken out of service. Energy losses

due to outages are considered unplanned if they are not scheduled at least four weeks in advance.

V

Value created per employee

Value created divided by number of employees.

W**Working capital ratio**

(Total current assets less financial instruments with group companies less investments in securities less embedded derivative assets less derivatives held for risk management less financial trading assets less cash and cash equivalents) / (Total current liabilities less financial instruments with group companies less debt securities issued less borrowings less embedded derivative liabilities less derivatives held for risk management less financial trading liabilities).