Description of Request	Energy Trading Optimization

The President has enacted the Electricity Regulation Amendment Act, initiating significant reforms in South Africa's electricity sector. This includes establishing a competitive electricity market with day-ahead, intraday, and balancing mechanisms. EDx Change aims to position itself as the preferred energy trader and Balance Responsible Party, managing substantial energy volumes.

To meet this demand made by the President of South Africa, the EDx Change department has been initiating and developing an energy trading platform. The department now needs assistance in implementing all the requirements in order to be the leader in this industry.

This document will go into some detail to explain how EDx Change intends to fulfil this Act and the assistance it needs. The document consists of:

1. A High-level background.
2. A Scope of work/requirements.
3. An Implementation plan.
4. Approvals.
5. Appendix: Detailed breakdown of the implementation plan

The next section will provide a high-level background of the project and a brief description and purpose for the requirements that will follow.

1. High-level background

South Africa’s electricity sector has entered a decisive new phase. The recently enacted Electricity Regulation Amendment Act (ERAA) remodels the industry around open, competitive trading platforms that include day-ahead, intraday and real-time balancing markets. These reforms unbundle network and market functions, expose all

participants to transparent price signals per System Operator (SO) defined network constrained zones and replace regulated cost-recovery with true market performance over time.

Within this setting, EDx Change aims to become the country's preferred energy trader and Balance-Responsible Party (BRP), ultimately handling transactions that could exceed R400 billion a year. Realising that ambition demands three capabilities: high-fidelity foresight of prices, congestion and imbalances at hourly (and even lower) resolution; rigorous quantification of exposure to price spikes, renewable-forecast error and counter-party credit; and industrial-grade execution that links bidding, risk control, settlement and compliance in a single straight-through process.

Electricity-market simulation and Value-at-Risk (VaR) analytics sit at the core of these requirements. Plexos-based (or similar tools) stochastic simulations will generate thousands of price and dispatch paths, stress-testing bids against reservoir levels, renewable penetration and network constraints. VaR then condenses those scenarios into a single monetary metric showing, for example, the maximum daily loss the trading desk might face with 99% confidence, thus defining capital limits, margin triggers and hedging needs.

A second pillar of EDx Change's strategy is a dedicated unit that aggregates distributed energy resources, notably a growing fleet of grid-connected Battery Energy Storage Systems (BESS). BESS assets supply rapid, bidirectional flexibility for arbitrage and ancillary services, deliver firm capacity when coupled with off-take PPAs, and hedge the portfolio against intraday volatility and imbalance penalties. Capturing that value, however, depends on dispatch optimisation embedded in the trading platform, automatic recognition of BESS constraints such as state-of-charge and degradation budgets, and carefully designed PPAs that transform flexible capacity into predictable revenue while shielding DET from peak-price shocks.

As Eskom prepares for a future with multiple market participants, including municipalities, independent traders, and large customers, the complexity of energy flows will increase. A sophisticated, agile, and well-governed forecasting function is therefore the backbone that supports all other trading functions.
Investing in forecasting capability through tools is not optional. it is the key enabler for competitiveness, efficiency, and resilience in the new energy market landscape.

To meet these demands, EDx Change has issued an RFP for an integrated Energy Trading and Risk Management (ETRM) system. To effectively implement the system, a full suite of trading-process documentation is required. Complementing the technology, detailed process flows, a master process manual and standard operating procedures covering deal capture, market bidding, BESS optimisation, risk measurement, position management, settlement, reconciliation, and regulatory compliance are required.

This RFP consolidates the DET requirements to ensure alignment of processes, proposed models and optimisation mechanisms. It therefore covers:

1. BESS optimisation model to determine when to dispatch this resource.
2. Models to determine optimal PPA prices to hedge against price volatility.
3. Portfolio Optimisation for Power Purchases Evaluation.
4. Algorithmic Trading

By combining a best-in-class ETRM platform with codified, auditable procedures, quantified risk exposure and management, EDx Change will be equipped to make evidence-based trading decisions, cap downside risk, unlock stacked BESS revenues and fulfil its fiduciary duties as a BRP in South Africa’s reformed electricity market.

This document will be going into some details on the Scope of work, training requirement (if needed) as well as the requirements during the implementation phases.
The next section will clarify the scope of work for each of the DET requirements listed above.

2. Scope of work/Business requirements

The requirements for this project have been split into several parts to explain the need for each one of them. The first DET requirement scope that will be clarified is the market simulation and risk analysis requirements. This section of the document will go into detail and clarify what EDx Change intends to do and expects from the consultant.

The next section will be outlining the scope of work for the BESS optimisation model.

2.1. Evaluation of the operational and commercial optimisation of Battery Energy Storage Systems (BESS) within emerging electricity markets

This task optimises the use of Battery Energy Storage System (BESS) within the Distribution Energy Tradeing. The consultant is expected to build models and bring in best practices to:

- Enhance market participation through energy arbitrage, ancillary services, and flexibility services.
- Evaluate the operational and commercial optimisation of Battery energy storage Systems (BESS) within emerging electricity markets, with a focus on:
    - Enhancing market participation through energy arbitrage, ancillary services, and capacity payment.
    - Assessing the appropriateness and structure of capacity payments under various Power Purchase Agreement (PPA) models.
- Evaluate the operational and commercial optimisation of battery energy storage Systems (BESS) within emerging electricity markets, with a focus on:
    - Enhancing market participation: Optimise price bids for BESS on day-ahead Markert linked to the forecasted System Marginal Price (SMP)
    - Diversification of Dx BESS Portfolio analyses through capacity payment, arbitrage and day ahead participation.

The Power Purchase Agreement (PPA) models will need to be created through agreements that need to be drafted and prices that must be evaluated.

The next section will go into details on the processes that will be needed to evaluate the off-taker PPA prices and liabilities, and the requirements from the consultant.

2.2. Evaluation of Off-taker PPA prices and liabilities

One of the strategies DET will use to manage the price risk is through bilateral agreements with generators and energy storage companies. This will require purchase agreements to be drafted, with price being a fundamental element of the PPA. The consultant is required to assist DET with the structuring of PPA, including prices at which it is optimal to enter into such an agreement. This will include:

- PPA structure and commercial terms review, understand the structure and key terms of existing or proposed BESS PPAs from the off-taker perspective: Capacity vs. energy vs. availability payment components. Evaluation of fixed vs variable price mechanism and performance incentives or penalties.
- Disaggregate and benchmark price components to understand cost drivers: Benchmark capacity payments (ZAR/kW-month) vs international norms. Evaluate energy payment basis (TOU, dynamic tariffs, avoided cost), consider stacked revenues (e.g. frequency response, arbitrage) in price logic.
- Risk and liability mapping: Non-delivery penalties (e.g. BESS unavailable during committed windows, less energy than forecasted), System operator dispatch overrides or curtailment clauses and compensation for unutilised capacity or misaligned dispatch signals.
- Scenario-based financial exposure analysis quantifies the financial impact of different performance and market scenarios on DET: Low utilisation due to market prices or grid constraints, frequent curtailment without compensation, Plant failure or warranty-related outages.
- Contractual remedies and payment adjustment mechanisms: Indexation clauses (inflation, market-linked), performance rebates or clawbacks and dispute resolution procedures.

The power purchase agreements and electricity trading will enable Distribution Energy Trading to procure power from various generators, and optimized platforms will be needed to carry out all these activities.

The next section will provide an overview of the scope for the portfolio optimisation for Power purchases evaluations.

2.3. Portfolio Optimisation for Power Purchases Evaluation

The service provider is required to support the development and implementation of procurement processes, tools, systems, platforms, and strategies aimed at optimising Distribution Energy Trading's electricity purchase portfolio. This includes identifying and designing appropriate models, platforms, and strategies that will enable Distribution Energy Trading to procure power optimally from a diverse mix of sources, such as Eskom, independent generators, rooftop solar, standard offer customers, flexible loads, and other distributed energy resources (DERs), identification and recommendation of methods and digital platforms that enable the integration and aggregation of multiple distributed generation assets, including the formation and operation of Virtual Power Plants (VPPs). These platforms should support data-driven decision-making for dispatch optimisation and market bidding

- Assessment of current and future procurement needs
- Identification of diversified procurement sources
- Development of portfolio optimisation models and tools
- Evaluation and selection of procurement platform
- Integration of distributed energy resources and Virtual Power Plants (VPPs)
- Design of portfolio risk management strategies
- Formulation of balance responsibility management approaches
- Monitoring and Performance Measurement

One of Distribution Energy Trading's responsibilities include being the Balance Responsible party, therefore accurate forecast will be needed to make informed decisions.

2.4. Algorithmic Trading

The service provider is required to develop and implement a tool, system or platform that automates the algorithmic trading strategies that the Energy Trading department creates.

The system or platform will assist the Energy Trading department make decisions required to trade in their favour. This includes creating models that make fast decisions in the market based on the predefined criteria such at timing, price and volume. Large amounts of data will need to be processed in real time allowing the Distribution Energy Trader to capitalize on market opportunities it would have missed through manual trading. And exploiting price differences between day-ahead, intraday, and real-time (balancing) markets.

There are types of algorithms that may be used in algorithmic trading:

- **Execution algorithms**: These algorithms mange the execution of trades based on an automated set of parameters.
- **Signal generators**: Signal generators generate trading signals to enhance trading efficiency and decision-making using advanced data analysis and technology.
- **Trading algorithms**: These algorithms decide whether a trade should be executed or not.

One, two or all of the algorithms above may need to be utilized, and the consultant will need to provide advice on the best one for the department.

Some of the uses of the algorithmic trading system or platform for the DET include:

- **Price forecasting and optimisation**: The ability to process large amounts of real-time data to predict future behaviour.
- **Market monitoring**: The ability to react instantly to market changes and execute trades at the best moments to maximize profitability.
- **Arbitrage opportunities**: The algorithms must be developed to detect price discrepancies between the day-ahead and intraday markets for electricity and execute trades to profit from this difference.

- **Risk and exposure management:** Algorithmic trading provide a scope for risk and exposure management through machine learning by implementing hedging in real time.
- **Increasing market knowledge**: The increased market knowledge of the market that the algorithmic acquires through ingestion of large quantities of data helps trading participants to gain more insight into the market and current trends. This increased knowledge also assists the algorithm to provide more accurate outputs.

This section has outlined all the requirements from the DET and the consultant expectations. The following section dives into the expected implementation plan for each of the requirements from the scope of work. The required training for specific requirements as well as the functional requirements are outlined in the next section.

3. Implementation phase

DET is proposing a phased approach in implementing the deliverables to allow for the delivery of urgent outputs before market go live and skills transfer. The second phase is focused on refinement and building on advanced models and processes. The following section summarises the breakdown of the two phases, a detailed breakdown is included in the Appendix.

3.1. Phase 1

The initial phase focuses on building foundational capabilities that should be operational before market go live:

3.1..1. Implementation for BESS Optimiser

- Finalise scope, objectives, and resource commitments.
- Establish project governance: assign project team, define roles, and reporting structure.
- Conduct stakeholder onboarding: DET ops, legal/contracts.
- Define data requirements: market prices, BESS specifications, existing PPAs, operational data
- Review market participation rules: day-ahead, balancing, ancillary services.
- Map value streams for BESS under current/future market designs.
- Assess BESS technical and operational parameters.
- Begin modelling basic dispatch profiles (e.g., peak shaving, arbitrage, market participation).
- Build dispatch optimisation models for BESS in different market scenarios.
- Simulate revenue outcomes for multiple bidding strategies.
- Compare results under variable tariff, curtailment relief, and VRE saturation conditions.
- Review existing PPA templates for BESS and capacity payment mechanisms.
- Define suitable capacity contribution metrics
- Conduct scenario modelling for availability-based and hybrid PPA structures.

- Assess revenue risk and return for DET under various PPA options.
- Review existing PPA templates for BESS and capacity payment mechanisms.
- Define suitable capacity contribution metrics
- Conduct scenario modelling for availability-based and hybrid PPA structures.
- Assess revenue risk and return for DET under various PPA options.
- Align optimisation and PPA recommendations with grid.
- Identify regulatory gaps or enablers for BESS value realisation.
- Conduct financial risk and sensitivity analysis on DET's BESS investment strategy.
- Draft integration guidelines for market operator and DSO/TSO coordination.
- Review BESS PPA legal liabilities for DET
- Consolidate all findings into final technical and executive reports.
- Conduct training or knowledge transfer sessions for DET planners and operators.
- Present final recommendations and models to DET executive leadership and stakeholders.

3.1..2. Implementation phase for PPA offtake structure

- Finalise project scope, team, and governance structure.
- Identify and collect all relevant PPA documents (existing and draft BESS PPAs).
- Engage legal, financial, and operational stakeholders for input.
- Analyse PPA structure components: capacity payment, energy payment, availability clauses.
- Break down price components into fixed, variable, and performance-linked terms.
- Benchmark local and international BESS PPA pricing models.

- Identify contractual risks (e.g. non-performance penalties, dispatch conflict, availability shortfall).
- Develop liability matrices mapping obligations and remedies by party.
- Analyse curtailment, force majeure, and system operator override clauses.
- Simulate DET financial exposure under low/high utilisation, curtailment, and performance deviations.
- Model cost recovery under different contract structures and market participation volumes.
- Evaluate the sensitivity of the off-taker cost under price volatility and non-performance
- Review contract terms for adjustability, re-opener clauses, and price indexation.
- Align liability clauses with ERA, grid code, and market code.
- Consult legal team on enforceability and precedent risks.
- Consolidate findings into actionable guidance for future DET PPAs.
- Present results to internal stakeholders and revise based on feedback.
- Conduct capacity-building session for DET commercial and operations teams.

3.1..3. Portfolio Optimisation for Power Purchases Evaluation

- Analyse DET's existing energy procurement framework and identify gaps and inefficiencies.
- Forecast future power needs across various time horizons (short, medium, and long term).
- Map out all potential supply sources: Eskom, IPPs, DERs, rooftop solar, flexible loads, and standard offer customers.
- Characterise each source based on cost, reliability, flexibility, and dispatchability.
- Design and recommend optimisation models and algorithms to support least-cost and risk-adjusted procurement.

- Integrate forecasted SMP, DER output, and load profiles into the optimisation logic.
- Identify and assess platforms for portfolio optimisation (e.g., ETRM systems, cloud-based optimisation tools, VPP platforms).
- Recommend platforms that align with DET's trading, dispatch, and aggregation strategies.
- Propose methodologies and technologies to aggregate DERs and flexible loads into dispatchable units.
- Recommend hedging or contracting strategies to mitigate exposure to volatility and imbalance penalty
- Propose methods for fulfilling balance responsibility obligations while minimising imbalance costs.
- Create a phased plan for deployment of tools, systems, and processes.
- Identify training, institutional readiness, and change management actions.

3.1..4. Algorithmic Trading

- **Legal:** Pick role of BRP or trader, define compliance checklist i.e. market code, ensure trading license is acquired.
- **Data & Infrastructure:** Ingest Day ahead market prices and volumes history, metering data, tariff tables etc. And setup the storage of the data.
- **Strategy & Research:** Build strategies to optimize bids against demand or supply forecasts.
- **Platform components:** Handle hourly auction bids, apply risk management, monitor the market on dashboards. Execute bids automatically, based on set parameters.
- **Testing:** Run test trades with historical data and simulate penalties using the market code. Involvement of the Distribution Energy Trader team is required to ensure that the system works as expected.
- **Execution:** Go live by starting with small volumes.

The next section continues with the description of the second phase of the expected implementation plan, including the training strategies and functional requirements.

3.2. Training/Transfer of skills:

3.2..1. Market simulation and VaR analysis

The skills gap analysis confirmed the current lack of specialised knowledge in detailed electricity market simulation and VaR analysis within the department. The phased approach directly supports addressing this gap by introducing concepts and tools progressively, reinforced by tailored training in each phase. This allows the team to build confidence and expertise systematically.

The department has a dedicated team of senior advisors who will be adjusting and building market simulation models going forward.

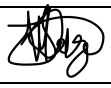
3.3. Functional Requirements:

Functionality	Description: Market simulation and VaR	Description: BESS optimisation
Market Forecasting	The model must simulate short- to medium-term market conditions (e.g., day-ahead, week-ahead). It must produce hourly price forecasts for each trading interval across relevant market zones. It must incorporate: • Demand forecasts (hourly granularity) • Generation availability (conventional and renewable) • Fuel costs and availability • Transmission/network constraints	The model is to be scenario-based to enable the simulation of short-term prices to optimise BESS participation in the market based on the SMP forecast. The model must be modifiable to allow adjustment for generation fleet

	• Regulatory pricing mechanisms or caps/floors	
Long-Term Market Projections	The model must support long-term scenario-based simulations (1 to 20 years). It must simulate market evolution based on policy changes, investment decisions, and structural shifts in market data.	
Stochastic Modelling	The system must simulate uncertainty using stochastic inputs (e.g., Monte Carlo simulations) for: • Plant outages • Renewable generation variability (solar/wind intermittency) • Fuel price fluctuations • Demand variability due to weather, economy, etc.	Define the Uncertainty Set: • Market Prices – Hourly/5-min prices for DAM, IDM and imbalance settlements. • VRE Generation – Wind/solar forecasts with error distributions by hub or node. • Demand & Net Load – Load forecasts plus demand-response activation probabilities. • System Events – Forced-outage rates of major plants, transmission constraints, reserve activation probabilities.
VaR Computation	• The system must calculate VaR for different scenarios and simulations	N/A
Revenue Forecasting	The model must forecast expected revenue under different market scenarios and quantify potential deviations (risk-adjusted revenue).	• Forecast revenue generation after depreciation cost maintenance costs, and operating costs based on average market price participation
System Integration	The system must be able to ingest: • Historical demand/generation data • Market prices (fuel, spot) • Forecast inputs from external tools	N/A

	• Must support automated data refresh and scheduled simulation runs. The system needs to support multiple runs in parallel and produce simulations within a reasonable amount of time. In addition, users must be able to track versions, retain records, assumptions and outputs for audit purposes.	
Reports and Visualisation	The system must be able to generate output reports including: • Market-clearing volumes and prices • Hourly forecasts including price • Stress test results • VaR • Scenario comparisons	

4. Approvals:

End user / requestor:	**Name:**	Mathapelo Makgoba
	Designation:	Manager Projects
	Date:	15/12/2025
	Signature:	
Senior Manager:	**Name:**	Mutenda Tshipala
	Designation:	General Manager: EDx Change (acting)
	Date:	15/12/2025
	Signature:	

5. APPENDIX: DETAILED BREAKDOWN OF WHAT TO COVER IN EACH OF THE PHASES

5.1. Implementation for BESS Optimiser (0-6 months)

6-Month Implementation Phase Plan

Month 1: Project Initiation & Planning

Key Activities:

- Finalise scope, objectives, and resource commitments.
- Establish project governance: assign project team, define roles, and reporting structure.
- Conduct stakeholder onboarding: DET ops, legal/contracts.
- Define data requirements: market prices, BESS specifications, existing PPAs, operational data.

Milestones:

- Kick-off workshop with all stakeholders.
- Approved project charter and work plan.
- Data request and access agreements in place.

Deliverables:

- Inception report (Scope, Work Plan, Governance)
- Stakeholder engagement plan

Month 2: BESS market participation analysis – foundations

Key Activities:

- Review market participation rules: day-ahead, balancing, ancillary services.
- Map value streams for BESS under current/future market designs.
- Assess BESS technical and operational parameters.
- Begin modelling basic dispatch profiles (e.g., peak shaving, arbitrage, market participation).

Milestones:

- Completed BESS technical-operational assessment.
- Draft market services opportunity matrix.

Deliverables:

- Technical constraints and participation readiness Report
- Value stacking matrix

Month 3: Advanced market modelling & dispatch strategy

Key Activities:

- Build dispatch optimisation models for BESS in different market scenarios.
- Simulate revenue outcomes for multiple bidding strategies.
- Compare results under variable tariff, curtailment relief, and VRE saturation conditions.

Milestones:

- Calibrated optimisation model with validated input data.
- Preliminary dispatch and revenue simulation results.

Deliverables:

- Optimised BESS market participation model
- Preliminary Revenue and Dispatch Scenarios Report

Month 4: PPA & capacity payment framework evaluation

Key Activities:

- Review existing PPA templates for BESS and capacity payment mechanisms.
- Define suitable capacity contribution metrics
- Conduct scenario modelling for availability-based and hybrid PPA structures.
- Assess revenue risk and return for DET under various PPA options.

Milestones:

- Comparative review of BESS PPA/capacity mechanisms (local and international).

- Capacity valuation methodology developed.

Deliverables:

- PPA and capacity payment evaluation report
- BESS capacity payment simulation tool

Month 5: Integration, risk, and regulatory review

Key Activities:

- Align optimisation and PPA recommendations with grid code, market code, and ERA Act.
- Identify regulatory gaps or enablers for BESS value realisation.
- Conduct financial risk and sensitivity analysis on DET's BESS investment strategy.
- Draft integration guidelines for market operator and DSO/TSO coordination.
- Review BESS PPA legal liabilities for DET

Milestones:

- Stakeholder validation workshop.
- Regulatory compliance matrix completed.

Deliverables:

- Regulatory and risk alignment report
- Operational integration guidelines

Month 6: Finalisation and handover

Key Activities:

- Consolidate all findings into final technical and executive reports.
- Conduct training or knowledge transfer sessions for DET planners and operators.
- Present final recommendations and models to DET executive leadership and stakeholders.

Milestones:

- Approval of final reports and recommendations.
- Stakeholder debrief and close-out meeting.

Deliverables:

- Final BESS optimisation evaluation report (with annexes and tools)
- Executive summary and presentation deck
- Training material and operations handbook (optional)

5.2. Implementation phase for PPA offtake structure

Month 1: Project setup and PPA data collection

Key Activities:

- Finalise project scope, team, and governance structure.
- Identify and collect all relevant PPA documents (existing and draft BESS PPAs).
- Engage legal, financial, and operational stakeholders for input.

Deliverables:

- Inception report (project plan, timeline, stakeholders).
- PPA portfolio register with basic metadata (term, pricing, capacity, indexation, etc.).
- Data gap analysis for missing contracts or incomplete clauses.

Month 2: PPA Structure and price decomposition

Key Activities:

- Analyse PPA structure components: capacity payment, energy payment, availability clauses.
- Break down price components into fixed, variable, and performance-linked terms.
- Benchmark local and international BESS PPA pricing models.

Deliverables:

- PPA price decomposition matrix.
- BESS PPA benchmarking report (with regional and global comparisons).
- Draft commercial term risk register.

Month 3: Risk and liability assessment

Key Activities:

- Identify contractual risks (e.g. non-performance penalties, dispatch conflict, availability shortfall).
- Develop liability matrices mapping obligations and remedies by party.
- Analyse curtailment, force majeure, and system operator override clauses.

Deliverables:

- PPA risk & liability allocation table.
- Off-taker exposure assessment framework.
- Interim risk scenarios report.

Month 4: Scenario modelling and financial exposure analysis

Key Activities:

- Simulate DET financial exposure under low/high utilisation, curtailment, and performance deviations.
- Model cost recovery under different contract structures and market participation volumes.
- Evaluate the sensitivity of the off-taker cost under price volatility and non-performance.

Deliverables:

- Scenario-based financial exposure report.
- Pricing sensitivity dashboards (Excel/Python-based).
- Recommendations for risk mitigation levers.

Month 5: Contract adjustment and regulatory review

Key Activities:

- Review contract terms for adjustability, re-opener clauses, and price indexation.
- Align liability clauses with ERA, grid code, and market code.
- Consult legal team on enforceability and precedent risks.

Deliverables:

- Legal and regulatory compliance brief.
- Contractual remedies and adjustment mechanisms.
- Recommended PPA clause adjustments (draft language).

Month 6: Final recommendations and handover

Key Activities:

- Consolidate findings into actionable guidance for future DET PPAs.
- Present results to internal stakeholders and revise based on feedback.
- Conduct capacity-building session for DET commercial and operations teams.

Deliverables:

- Final PPA pricing & liability evaluation report.
- DET Off-taker PPA design & risk management guidelines.
- Stakeholder presentation.
- Optional: PPA review tool (Excel-based for future evaluations)

5.3. Implementation for portfolio optimisation systems and tools (0-6 months)

6-Month Implementation Phase Plan

Month 1: Project Initiation & Planning

Key Activities:

- Finalise scope, objectives, and resource commitments.
- Establish project governance: assign project team, define roles, and reporting structure.
- Conduct stakeholder onboarding: DET ops, legal/contracts.

- Define data and systems requirements: generation units' capacity and profiles, purchase and sales data and profiles, DER capacity and profiles etc.

Milestones:

- Kick-off workshop with all stakeholders.
- Approved project charter and work plan.
- Data request and access agreements in place.

Deliverables:

- Inception report (Scope, Work Plan, Governance)
- Stakeholder engagement plan

Month 2: Analysis of DET purchases, portfolio requirements and activities

Key Activities:

- DETs needs and business requirements assessment
- Review of data and information requirements, including:
  - Sales and purchase data.
  - Generation unit's portfolio and profile.
  - Review of distributed generation sources' capacity and profile
- Identification and review of existing portfolio optimisation systems and platforms.

Milestones:

- Portfolio optimisation, technical-operational needs and business requirements assessment.

Deliverables:

- Draft business needs and requirements assessment report

Months 4-5: Presentation of advanced portfolio modelling tool/ system

Key Activities:

- Build purchase portfolio optimisation models considering different market scenarios.
- Simulate different outcomes for a combination of purchase scenarios.

- Compare results under different purchase requirements.

Milestones:

- Calibrated optimisation model with validated input data.
- Preliminary purchase simulation results.
- Testing and simulation workshop with stakeholders.

Deliverables:

- Draft portfolio purchasing model/tools
- Preliminary purchase scenarios and risk assessment report.
- Draft simulation and testing results report.

Month 5: Integration, risk assessment and review

Key Activities:

- Identify system integration requirements with other related platforms, e.g. ETRM, VVP systems, etc.
- Conduct financial risk and sensitivity analysis of DET purchasing strategy.
- Draft integration guidelines for integration and coordination with other systems.

Milestones:

- Completed integration analysis and scenario modelling report

Deliverables:

- Regulatory and risk assessment report
- Operational integration report and guidelines

Month 6: Finalisation and handover

Key Activities:

- Consolidate all findings into final technical and executive reports.
- Conduct training or knowledge transfer sessions for DET planners and operators.
- Present final recommendations and models to DET executive leadership and stakeholders.

Milestones:

- Approval of final reports and recommendations.
- Stakeholders' debrief and close-out meeting.

Deliverables:

- Final purchases optimisation evaluation report (with annexes and tools)
- Executive summary and presentation deck
- Training material and operations handbook (optional)