# Cost of Service, Tariff Design and Revenue Requirement Course

21 February – 4 March 2027
Manama

# Cost of Service, Tariff Design and Revenue Requirement Course

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## Programme Summary

Cost of service, tariff design and revenue requirement are the subject of this two-week training course for finance, pricing and planning leaders in energy and utility organisations, ending in a tariff and revenue model for one utility. Tariffs set without a traceable link to cost lead to under-recovery, cross-subsidy disputes and weak submissions to reviewers. The programme moves from cost structure to revenue requirement, allocation, tariff design, scenario testing and a documented model, using prepared utility data. Mars Training Centre UK delivers this programme on cost of service, tariff design and revenue requirement to mixed-organisation cohorts.

## The Business Case

Energy, gas and water utilities carry large fixed asset costs, and the price they charge decides whether those costs are recovered. When allocation is unclear, one customer group may fund another without anyone having decided it. Leaders who can trace every tariff to a cost base answer reviewers faster and plan capital with firmer income assumptions.

- Cost Recovery: Improves when the revenue requirement is built from a documented asset base and tested against forecast demand.
- Cross-Subsidy Exposure: Falls when costs are allocated to customer classes by stated factors and compared with the revenue each class pays.
- Decision Cycle Time: Shortens when a reviewed model replaces rebuilt spreadsheets for each tariff proposal.

## Principles and Evidence Base

- Revenue Requirement Method: Sets allowed income from operating cost, depreciation and a return on the asset base, applied in Sessions 2 and 3.
- Cost of Service Study: Functionalises, classifies and allocates costs to customer classes, applied in Sessions 4 and 5.
- Marginal Cost Pricing: Prices supply by the cost of one more unit, applied in Sessions 6 and 7 to test tariff signals.
- Levelised Cost of Energy: Compares supply options on a common cost per unit, applied in Session 6.

## Intended Participants

- Utility finance leaders who answer for revenue, cost recovery and the price submission.
- Pricing and tariff managers who design rate structures and bill schedules.
- Planning and strategy leaders who link capital programmes to income needs.
- Regulatory and commercial managers who defend cost models to reviewers and boards.

Typical settings include electricity supply, gas distribution, water and wastewater, and district energy.

## Learning Outcomes

1. Participants will be able to construct a revenue requirement from an asset base, operating cost and an allowed return.
2. Participants will be able to classify and allocate costs to customer classes in a cost of service study.
3. Participants will be able to diagnose cross-subsidy by comparing class revenue with allocated cost.
4. Participants will be able to evaluate marginal cost and levelised cost results as price signals.
5. Participants will be able to construct tariff structures and prioritise them by bill impact and recovery risk.
6. Participants will be able to justify a tariff proposal in a traceable, reviewed model.

## Programme Structure

## Day 1: Cost Structure of Energy and Utility Businesses

Which costs does a utility carry, and how do they behave?

- Cost Classification Map
- Fixed and Variable Cost Analysis
- Asset Base Register Review
- Operating and Capital Cost Split
- Chart of Accounts Mapping

## Day 2: Revenue Requirement Foundations

How much income must the utility recover each period?

- Revenue Requirement Formula
- Rate Base Construction
- Depreciation Schedule Build
- Allowed Return Calculation
- Working Capital Allowance

## Day 3: Test Period and Forecast Cost Inputs

Which cost forecasts will a reviewer accept?

- Test Period Selection
- Cost Escalation Indices
- Demand Forecast Link
- Capital Programme Phasing
- Input Assumption Log

## Day 4: Cost of Service Study Method

How are costs functionalised and classified before allocation?

- Functionalisation of Production, Network and Retail Costs
- Demand, Energy and Customer Classification
- Cost of Service Study Layout
- Allocation Factor Selection
- Class Cost Summary

## Day 5: Allocation to Customer Classes

Which customer groups cause which costs?

- Peak Demand Allocation Factors
- Energy Allocation Factors
- Customer Count Allocators
- Cross-Subsidy Index
- Class Rate of Return Comparison

## Day 6: Marginal Cost and Levelised Cost

What does one more unit cost to supply?

- Marginal Cost Pricing Principles
- Levelised Cost of Energy Calculation
- Network Marginal Cost Estimate
- Discount Rate Choice
- Supply Option Comparison

## Day 7: Tariff Design

How are allocated costs turned into prices customers can read?

- Fixed Charge and Volumetric Rate Split
- Block and Tiered Tariff Structure
- Time-of-Use Rate Design
- Demand Charge Design
- Tariff Schedule Layout

## Day 8: Tariff Testing and Scenarios

How does a tariff behave when assumptions move?

- Revenue Reconciliation Test
- Bill Impact Analysis
- Sensitivity Table
- Demand Response Scenario
- Under-Recovery Risk Rating

## Day 9: Model Build and Review

Can a reviewer trace every figure to its source?

- Model Architecture Standard
- Input, Calculation and Output Separation
- Error Check Dashboard
- Version Control Log
- Independent Model Review

## Day 10: Tariff and Revenue Model for One Utility

Do the earlier steps join into a model a board can approve?

- Applying the Session 2 Revenue Requirement
- Applying the Session 5 Allocation Factors
- Testing the Session 8 Bill Impacts
- Preparing the Board Decision Note
- Completing the Tariff and Revenue Model

## Methodology

The programme is a data workshop built on prepared records from two utilities, one in electricity supply and one in water. Participants build each model layer in sequence, compare their results with peers, and defend allocation and tariff choices to colleagues acting as a review panel.

- Suggested activity: Building a revenue requirement from an asset register and adjusting it for a capital programme.
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Suggested activity: Allocating a cost pool to three customer classes and comparing the cross-subsidy results.
- Suggested activity: Testing two tariff structures for bill impact and recovery risk.

## Capstone Output

Each participant completes a tariff and revenue model for one utility. It holds a revenue requirement, a cost of service study, class allocation results, a tariff schedule, a bill impact table and a short decision note. At work it supports the price submission and sets the routine for later reviews.

## Frequently Asked Questions

### Is cost of service and tariff design training suitable for leaders new to modelling?

Yes. Cost of service and tariff design are taught through prepared data and templates. You need responsibility for finance, pricing or planning in a utility, but no earlier model-building experience.

### Which methods does revenue requirement and cost of service training rest on?

Revenue requirement and cost of service work rests on the revenue requirement method and the cost of service study, with marginal cost pricing and levelised cost of energy used to test tariff signals.

### How is the model from cost of service and tariff design training used at work?

You use the tariff and revenue model to support a price submission, brief a board on bill impacts, and keep its checks as the routine for later tariff reviews.

### How does cost of service and tariff design differ from a programme on utility investment appraisal?

Cost of service and tariff design concentrate on recovering cost through prices, while a programme on utility investment appraisal concentrates on choosing which projects to fund.