Measurement, Verification and Energy Flexibility

A Training Course for Clients and Partners

Based on the M&V & Flexibility Application Guide developed by EVO's Committee on M&V for Flexibility

Five modules with knowledge checks | July 2026

COURSE OVERVIEW

About this course

A professional grounding in energy flexibility for clients and partner organisations.

Energy flexibility is becoming a core part of how modern grids stay balanced and how organisations unlock new value from their buildings and assets. This course introduces the markets, the practical steps to participate, and the measurement and verification practices that make flexibility trading credible and bankable.

The content is drawn from the M&V; & Flexibility Application Guide developed by EVO's Committee on M&V; for Flexibility, which sets out globally recognised best practices for measuring and verifying flexibility services. It is relevant to estate and facilities leaders, energy managers, sustainability teams, and commercial decision makers evaluating participation in energy and flexibility markets.

Course structure

Module	Focus	Time
1. Understanding Energy Flexibility	What flexibility is, why it matters, and the forms it can take	15 min
2. Energy Markets and Flexibility Trading	How markets are structured, the role of aggregators, and global case studies	20 min
3. Implementing Flexibility	Identifying flexible loads, the four key metrics, revenue potential and real projects	20 min
4. Measurement and Verification Approaches	Implicit and explicit baselines, the five standard methods, and common pitfalls	25 min
5. Metering, Controls and Uncertainty	Metering standards, control strategies, and managing uncertainty in settlement	20 min

> Each module ends with a short knowledge check. The answer key is provided at the back of this document, together with a glossary of key terms.

MODULE 1

Understanding Energy Flexibility

What a grid flexibility project is, why the market is growing, and the forms flexibility can take.

What is a grid flexibility project?

A grid flexibility project is any initiative in which a facility's normal electricity usage or on-site generation is deliberately modified in response to an external signal, in order to provide a service to the electricity grid. The change may be a reduction, a shift in timing, or a temporary increase in consumption or generation.

In practice this could mean curtailing a factory's load during a peak demand hour, shifting a building's HVAC usage to absorb excess solar generation at midday, or dispatching a battery or generator when requested by a network operator.

Why do flexibility?

Network operators procure flexibility, in the form of demand turn up or turn down, to manage local grid constraints. This defers the need for immediate, capital intensive infrastructure upgrades. Several forces are driving growth in this market:

- Matching supply to demand is increasingly difficult, including over-supply of renewable energy at the wrong time of day.
- Electric vehicles and intermittent generation from solar and wind mean the grid must balance both over-production and rising demand.
- Organisations want to include flexibility in their pathway to Net Zero.
- Growing economies constrain the grid further, and new connection agreements may be restricted by network operators.
- EU directives such as the Smart Readiness Indicator encourage organisations to use buildings as virtual power plants.
- The physical wires and transformers of the grid are expensive to size for peak load. It is more effective to manage the peaks than to build for them.

> According to the Carbon Trust (2025), the UK flexibility market is estimated to reach 1 to 2 billion pounds by 2030.

The forms flexibility can take

- **Demand turn down:** reducing consumption from non-critical equipment. For example, a 200kW service might combine 120kW of battery discharge behind the meter with 80kW of equipment switched off.
- **Demand turn up:** absorbing excess grid energy, for instance heating a pool slightly warmer or charging a battery when renewable output is high.
- **Battery behind the meter:** charging overnight on a cheaper tariff and discharging during expensive periods, often called load shifting.
- **Battery in front of the meter:** operating for pooled, grid-wide balancing purposes.

- **Exporting to the grid:** where export licences exist, generation can be sold to the grid. Connection upgrades may be required.
- **Peak demand response:** reducing load to avoid costly peak demand charges.

Who participates?

The flexibility ecosystem brings together market operators such as DNOs, DSOs, ISOs and TSOs, energy managers and auditors, aggregators and Flexibility Service Providers, software providers of virtual power plants, energy cooperatives, and energy bill payers seeking to participate in these markets. M&V; professionals play a central role in verifying the flexibility delivered for settlement purposes.

KNOWLEDGE CHECK

Module 1 questions

1. Which of the following best describes a grid flexibility project?

a) A project that permanently reduces a building's energy consumption through efficiency measures

b) A deliberate modification of a facility's electricity usage or generation in response to an external signal, to provide a service to the grid

c) The installation of renewable generation on site

2. Why do network operators procure flexibility?

a) To increase electricity sales revenue

b) To replace all conventional generation with renewables

c) To manage local grid constraints and defer capital intensive infrastructure upgrades

3. What is the estimated size of the UK flexibility market by 2030, according to the Carbon Trust (2025)?

a) 1 to 2 billion pounds

b) 50 to 100 million pounds

c) 10 to 20 billion pounds

4. Which of the following is an example of demand turn up?

a) Switching off air handling units during a peak period

b) Exporting battery power to the grid

c) Heating a pool slightly warmer to absorb excess grid energy

MODULE 2

Energy Markets and Flexibility Trading

How energy and flexibility markets are structured, the role of aggregators, and how different countries are developing these markets.

How energy trading is organised

Energy trading markets are organised sequentially, progressively narrowing the uncertainty between generation, demand and network availability from long-term planning down to real-time operation. The main layers are long-term procurement contracts, shorter-interval spot market trading including day-ahead and intraday, balancing mechanisms used by system operators to match real-time supply and demand, and market structures spanning wholesale, bilateral and retail trading.

The grid hierarchy and voltage levels

Understanding voltage levels matters when providing flexibility services. The TSO operates at the 400kV to 132kV substation level, while the DSO or DNO operates at 132kV and below, usually 11kV. At that level, assets are typically large-scale batteries, distributed energy resources, or commercial and industrial customers. At domestic voltage, aggregation is the key: a large portfolio of home EV chargers can have a meaningful impact at 11kV when combined.

The role of aggregators and FSPs

- **Demand aggregators** that negotiate more advantageous contracts with retailers on behalf of a large group of consumers, sometimes known as energy brokers.
- **Portfolio aggregators** that combine multiple energy loads from different consumers or assets, effectively creating virtual power plants.

Aggregation matters because certain markets have minimum entry thresholds, commonly 1MW or 3MW. By grouping behind-the-meter assets into coordinated portfolios, aggregators enable smaller sites to participate in markets they could not access alone.

Global market case studies

CASE STUDY

Costa Rica

A tariff structure for industrial and commercial sectors segments the day into Peak, Off-Peak and Night hours to incentivise load shifting. Aligning with the National Decarbonisation Plan, companies certifying an Energy Management System under ISO 50001 receive preferential rates.

CASE STUDY

India

India is shifting from passive distribution management to active demand flexibility. State regulators, notably in Maharashtra, have introduced mandatory Demand Flexibility Portfolio Obligations with quantified targets such as a 7 percent flexible demand goal over five years. A national smart meter rollout supports Automated Demand Response: a 2025 pilot in Delhi demonstrated load reductions of up to 78 percent for specific residential appliances, showing automation to be more reliable and scalable than manual intervention.

CASE STUDY

United Kingdom

The Demand Flexibility Service (DFS) is a national TSO-level service introduced in winter 2022/23 that asks energy users to scale back consumption during grid constraint periods. Operational baselines are calculated using the P376 industry methodology. Alongside DFS, the ancillary services market covers frequency response operating on a second-by-second basis, capacity markets, and voltage regulation keeping voltage within 5 percent of standard levels.

CASE STUDY

Italy, DSO and TSO level

The RomeFlex project pilots local flexibility services on Rome's distribution network, combining long-term capacity auctions with short-term Local Day Ahead and Local Intra-Day markets, managed with the Italian market operator GME. At transmission level, Terna ran a pilot to competitively procure voltage regulation services, awarding three-year contracts with annual availability payments to plants providing reactive power support.

Settlement considerations

Flexibility trading is moving towards shorter timeframes, with trades set a day ahead and delivered within a two to four hour call-out window. Other contracts are longer term, paying for availability with only a limited number of actual events called upon. When assets are stacked across multiple markets and multiple parties, robust baselines become essential for settling trades. Each procurer has its own baseline methods and non-performance penalty clauses.

- Allowance is usually made for non-routine adjustments once a flexibility event has occurred.
- Shorter baseline periods are used, such as the last 5 or 10 similar days, for example the last five Mondays.
- Gaming is a concern for procurers, where a provider deliberately inflates the baseline before an event. Some baseline increases are legitimate, such as pre-cooling a building before a turn down, which is why context and evidence matter.

KNOWLEDGE CHECK

Module 2 questions

1. At which voltage levels does the DSO or DNO typically operate?

a) 400kV and above only
b) 132kV and below, usually 11kV
c) Domestic voltage only, at 230 to 240 volts

2. Why is aggregation often necessary for market participation?

a) Certain markets have minimum entry thresholds, commonly 1MW or 3MW
b) Individual sites are legally prohibited from trading
c) Aggregators own all metering equipment

3. Which methodology is used to calculate operational baselines in the UK Demand Flexibility Service?

a) ISO 50001
b) OpenADR 2.0b
c) The P376 industry methodology

4. A provider increases building cooling before a flexibility event. How should this be treated?

a) Always as gaming, and the provider should be penalised
b) It may be legitimate pre-cooling ahead of a turn down, so context and evidence are needed
c) It should be ignored in all settlement calculations

MODULE 3

Implementing Flexibility

Identifying flexible loads, the four key metrics, assessing revenue potential, and lessons from real projects.

Identifying flexible loads

A flexible asset is electrical plant or equipment whose use can be time-shifted or reduced without compromising a facility's needs. Sources of flexibility should be non-critical to building operations.

Facility type	Typical flexible assets
Residential	EV chargers and home battery storage, usually aggregated by energy suppliers
Commercial offices	Air handling units, electric heating and cooling, refrigeration, chillers, non-critical pumps and motors
Industrial	Large-scale plant, HVAC, chillers, cooling, electric heating
Hospitals	Back-up generators run alongside events, battery storage, non-critical pumps, motors and AHUs
Leisure centres	Heating and cooling, AHUs, battery storage, air and water source heat pumps

Good sources of information include half hourly data, weather files, nameplate ratings, plant schematics, building management system information, and building thermal models.

The four key flexibility metrics

Metric	Description
kW Flexibility	The amount, in kW, that can be provided as demand turn up or turn down. This may change with the seasons, for example a heat pump's coefficient of performance differs between summer and winter.
Response time	How much notice is needed to respond to a market signal. This ranges from a day ahead, to hours, to 30 minutes, down to sub-second for frequency response.
Run rate	How long the flexibility can be sustained. A battery might run for an hour, while an air handling unit might only be off for half an hour before air quality standards erode.
Recovery time	How long the facility needs to return to normal operation before the next event. During recovery, the asset is unavailable for trading. Beware the bounce back effect, the additional make-up energy consumed after an event.

Assessing revenue potential

Revenue potential depends on the availability of markets in your area, especially whether you are in a grid constraint zone, the number of flexibility events expected, market prices and competition, and your strategy for stacking multiple markets without compromising delivery. Consider the impact on your baseline when entering multiple markets: a flexibility event in one market lowers the recent history average used in another.

Trading in practice

Procurers normally require pre-qualification, which is one reason aggregators are commonly used. There must be a process, manual or automatic, to respond to a market call. Sub-second frequency response requires a direct signal to a battery's inverter, while slower services can be delivered manually by site staff. Energy data evidencing the kW delivered during the event is needed for settlement.

CASE STUDY

BankEnergi: market optimisation across five leisure centres

BankEnergi was contracted by a city council to study five leisure centres, including an Olympic standard ice rink and an outdoor pool. The aim was to identify flexible assets, the costs of making them tradeable, and the revenue potential across local constraint markets, national markets and peer-to-peer capacity trading.

Flexibility was determined through building physics modelling using IES and Transys software, giving seasonal ranges of low, medium and high kW flexibility for each asset, together with run rates and recovery times. Identified assets included ice rink chillers with 65 to 102kW of flexibility, batteries from 120 to 300kWe across sites, AHUs, and heat pumps.

Estimated revenue ranged from 57,000 pounds for 30 events per year up to 140,000 pounds for 150 events. A key limitation: the sites were split across three grid supply points, so there was not enough aggregation at any one point to reach the 1MW threshold for national markets.

CASE STUDY

SSE: Demand Flexibility Service in the retail sector

A department store customer participated in the UK DFS by turning off non-essential systems, mainly HVAC. Across three sites, a total of 865.5kW was delivered to the grid for one hour, from 17:30 to 18:30. The baseline process strictly followed ESO standards using the P376 methodology, with settlement calculated as the difference between baseline and actual demand.

CASE STUDY

Con Edison, New York: Dynamic Load Management

The DLM programme has two components. Term-DLM is a day-ahead peak shaving initiative with at least 21 hours notice. Auto-DLM requires load relief within just 10 minutes, designed for critical peak scenarios. Both involve 3 to 5 year contracts, providing long-term revenue certainty that encourages investment in technologies such as energy storage. Higher compensation comes with stricter performance criteria, including reservation payment reductions, financial penalties, and early exit fees for underperformance.

Integration with energy audits and ISO standards

Flexibility assessment fits naturally within an energy audit under EN 16247-1 or ISO 50002, inside the broader framework of an ISO 50001 energy management system. ISO 50047 supports the correct determination of energy savings without double counting. These standards support the assessment of flexible loads during audits, measurement and verification of flexibility impacts, and planning through an energy management system. None of them, however, yet provides a full framework for flexibility baselines, which is the gap the M&V; guide addresses.

KNOWLEDGE CHECK

Module 3 questions

1. Which of the following are the four key flexibility metrics?

a) Voltage, current, power factor and frequency

b) Capacity, efficiency, availability and reliability

c) kW flexibility, response time, run rate and recovery time

2. What is the bounce back effect?

a) The additional make-up energy used to bring a facility back to normal operating conditions after an event

b) The rejection of a trade by the market operator

c) A sudden drop in energy prices after a flexibility event

3. In the BankEnergi leisure centre study, why could the sites not enter national markets?

a) The council declined to participate

b) The sites were split across three grid supply points, so aggregation could not reach the 1MW threshold

c) The assets had no metering installed

4. What distinguishes Auto-DLM from Term-DLM in the Con Edison programme?

a) Auto-DLM has no penalties for non-performance

b) Auto-DLM contracts last only one year

c) Auto-DLM requires load relief with just 10 minutes notice, versus at least 21 hours for Term-DLM

MODULE 4

Measurement and Verification Approaches

Implicit and explicit baselines, the five standard baseline methods, and the issues every participant should understand.

Two perspectives on baselines

- **Implicit baselines** apply when end users adjust assets to optimise energy usage against energy prices. This is often called behind the meter activity, aimed at reducing internal operational costs, for example load shifting against a time of use tariff.
- **Explicit baselines** apply when assets respond to a market signal from a DNO, DSO or TSO, and the facility owner earns revenue for providing flexibility. This is often called in front of the meter activity.

The financial value differs accordingly. Implicit is cost avoidance: baseline cost minus actual cost. Explicit is revenue generation: delivered flexibility in kW, multiplied by duration, multiplied by contract price.

Implicit events and the IPMVP options

- **Option A, key parameter measurement:** spot measurements that can also verify nameplate ratings used in explicit events.
- **Option B, all parameter measurement:** continuous measurement at retrofit level, which can also support nomination baselines and load shifting projects.
- **Option C, whole facility measurement:** supports recent history baselines and demand shifting.
- **Option D, calibrated simulation:** supports modelled profiles, such as EV charger loads at aggregation and scale.

An example of implicit value in the UK is the Distribution Use of System charge, which varies across Green, Amber and Red time zones. A battery can charge in the cheap Green zone overnight and discharge during the expensive Red zone in the early evening, a process known as energy arbitrage.

The five standard explicit baseline methods

For explicit events, the guide references the Flexibility Market Rule Standard Baseline Methodology (Elexon, April 2026), which defines five methods being adopted across the UK by DNOs, DSOs and TSOs:

Method	How it works	Typical use
Asset Capacity	Assumes the asset operates at its full rated capacity during the event, irrespective of actual conditions.	Schedulable generation. Take care if the asset was not at full load, for instance a heat pump at half capacity in summer.
Fixed Reference	Uses a fixed daily profile derived from a representative group of assets or planning scenarios.	Large groups of domestic EV charging points, assessed against reference charging behaviour.

Method	How it works	Typical use
Nomination	The FSP proposes expected meter values for a future window, which becomes the baseline. Subject to accuracy standards set by the DNO.	Assets not influenced by weather, where flexibility is under 10 percent of site maximum demand.
Recent History	Averages recent eligible days, excluding event days, matched by time of day and day type. May include within-day adjustments.	The most typical method, also used by the Balancing Settlement Code and NESO's DFS.
Zero	The baseline is set to zero, assuming no usage or production in the absence of the event.	A charged battery waiting to discharge, or backup generation.

> In the UK DFS, working day baselines use the 10 most recent eligible days. Non-working day baselines use the 4 most recent eligible days, taking the mean of the 2 median days. Self-reported baselines are not recommended.

Battery systems: state of charge and state of health

For battery projects, two state variables condition both the feasibility of delivery and the correctness of M&V; outcomes. The initial state of charge defines the energy headroom available at the start of an activation window: if it is not measured and validated, a shortfall in delivery may be wrongly attributed to model error. State of health captures capacity fade as the asset ages: ignoring it implicitly assumes a new battery and creates systematic bias over time, which can lead to owners being penalised for degradation effects outside their control.

Operational verification

Operational verification evidences that other equipment within the measurement boundary did not change during the flexibility event. Building management system records of running status, operating hours and temperatures support baselines, settlement and the prevention of gaming. Spot measurements can prove assets were on or off at the relevant times.

Common issues

User behaviour

Users are not passive consumers. Habits, routines, trust in the technology and perceived impacts on comfort or production determine whether flexibility is accepted in practice. Strategies should be developed with the people who operate the facilities, combining technical monitoring with engagement, training and clear feedback.

Infrastructure readiness

Older facilities were often not designed with monitoring or automation in mind. Poorly labelled circuits, missing drawings and cramped electrical boards mean a flexibility project often needs an initial clean-up phase covering circuit mapping, labelling and selective upgrades.

Gaming

Gaming includes deliberately increasing consumption before an event so the apparent reduction is exaggerated. It creates artificial congestion and market inefficiency, because no real flexibility is delivered when needed. Improved baseline methods and operational verification help distinguish gaming from legitimate actions such as pre-cooling, which can be treated as agreed outliers.

Rebound effect

Consumption typically increases after an event to restore normal conditions. Interactive effects can also occur, for example turning off a chiller may cause local air conditioning units to start up, negating the site-wide reduction. This is a particular concern with asset capacity, fixed reference and zero baselines.

Carbon savings

Carbon savings can be negative if the primary purpose is financial response. Increasingly, however, strategies use energy at times of low carbon grid intensity and provide flexibility when intensity is high. This practice, known as carbon flexing, is likely to matter in a Net Zero future. Also consider whether a flexibility trade with a third party could create losses under your energy supply contract.

KNOWLEDGE CHECK

Module 4 questions

1. What distinguishes an explicit baseline from an implicit baseline?

a) Explicit baselines only apply to batteries

b) Explicit baselines respond to a market signal from a DNO, DSO or TSO and generate revenue, while implicit baselines optimise usage against energy prices

c) Implicit baselines are always more accurate

2. Which are the five standard explicit baseline methods?

a) Asset Capacity, Fixed Reference, Nomination, Recent History and Zero

b) Options A, B, C, D and E

c) Daily, Weekly, Monthly, Seasonal and Annual

3. When is a nomination baseline recommended?

a) For weather dependent assets only

b) Whenever a site has solar generation

c) For assets not influenced by weather, where the flexibility is less than 10 percent of the site's maximum demand

4. A zero baseline would most typically be applied to which asset?

a) A supermarket's HVAC system

b) A fully charged battery energy storage system waiting to discharge

c) An office lighting circuit

5. What is the rebound effect?

a) An increase in energy consumption after a flexibility event to restore normal operating conditions

b) A financial penalty for non-delivery

c) The return of energy prices to their previous level after an event

MODULE 5

Metering, Controls and Uncertainty

The metering and control infrastructure that makes flexibility verifiable, and how uncertainty is quantified and managed.

Minimum metering standards

- **High resolution data:** a minimum of 15 minute interval data is required for flexibility participation. Some programmes, such as frequency response and ancillary services, require resolution down to sub one-minute intervals.
- **Bidirectional tracking:** meters must measure both consumption and export for participants with distributed energy resources.
- **Revenue grade accuracy:** meters should adhere to standards such as ANSI C12.20 or IEC 62053-22 to comply with billing and settlement requirements.

Meter types and aggregated portfolios

Smart AMI meters provide automated reporting and remote communication. Interval meters measure in increments of 15 minutes or less. Submetering allows granular measurement of specific flexible loads such as HVAC, refrigeration or battery storage, supporting more accurate baseline adjustments.

For aggregated portfolios, baselining is completed at a Meterable Unit level rather than for each individual asset. Assets using static baselines such as Asset Capacity, Zero or Fixed Reference can be grouped into a single Meterable Unit. They cannot be grouped with nomination baselined assets, because nominations are submitted by the FSP and subject to accuracy standards.

Data communication and controls

Metered data should be encrypted in transit using protocols such as TLS or MQTT, with interoperability through industry standards such as Modbus, BACnet or IEEE 2030.5. Participants should have access to their data through portals or APIs. On the control side, Automated Demand Response using the OpenADR 2.0b standard enables direct load control from dispatch signals, alongside building energy management system optimisation and battery dispatch strategies driven by market conditions.

Sources of uncertainty

- **Measurement:** metering errors, instrumentation drift, poor meter placement, and communication issues.
- **Baseline:** variability in pre-event consumption due to weather, occupancy or operations, and inappropriate baseline models.
- **Operational and behavioural:** operators overriding controls, variable process loads, and misalignment between dispatch signals and actual capacity.
- **Market and settlement:** differing interpretations of event rules, inconsistent M&V; methodologies, and regulatory change.

Quantifying and managing uncertainty

Uncertainty is quantified through meter accuracy ratings and calibration, propagation of uncertainty using the root sum square method under the ISO Guide to the Expression of Uncertainty in Measurement, and Monte Carlo simulation to estimate confidence intervals for measured flexibility.

> Useful thresholds for baseline quality: a coefficient of variation below 20 percent indicates strong baseline stability, and a mean absolute percentage error below 10 percent is generally accepted for high confidence baseline models.

Best practices for managing uncertainty include high frequency data collection at five minute intervals or less for fast acting resources, dynamic baselining rather than static historical averages, 95 percent confidence interval analysis in settlement, and independent third party verification by certified M&V; professionals aligned with ISO 50015.

For market integration, the guide recommends an error tolerance of plus or minus 5 percent for metered load reduction verification and a baseline variation allowance of plus or minus 10 percent before model adjustments are required. In the UK, nomination accuracy will be assessed monthly against Net Percentage Error and Absolute Percentage Error measures, with DNOs able to initiate a Nomination Performance Review where thresholds are not met.

KNOWLEDGE CHECK

Module 5 questions

1. What is the minimum data resolution generally required for flexibility participation?

a) Hourly interval data
b) 15 minute interval data, with some programmes requiring sub one-minute resolution
c) Daily meter readings

2. Which combination of assets cannot be grouped in a single Meterable Unit?

a) Two assets both using zero baselines
b) Asset capacity and fixed reference baselined assets
c) Nomination baselined assets with non-nomination baselined assets

3. What coefficient of variation threshold is recommended for strong baseline stability?

a) Below 20 percent
b) Below 50 percent
c) Below 80 percent

4. What error tolerance does the guide recommend for metered load reduction verification?

a) Plus or minus 25 percent
b) Plus or minus 5 percent
c) Zero tolerance

REFERENCE

Knowledge Check Answer Key

Correct answers for the knowledge checks in each module.

Module	Answers
Module 1	1. b 2. c 3. a 4. c
Module 2	1. b 2. a 3. c 4. b
Module 3	1. c 2. a 3. b 4. c
Module 4	1. b 2. a 3. c 4. b 5. a
Module 5	1. b 2. c 3. a 4. b

Glossary of Key Terms

Aggregator An organisation that combines multiple loads or negotiates on behalf of consumer groups, enabling market participation at scale.

BESS Battery Energy Storage System.

BM Balancing Mechanism, trading in the final period to balance the grid.

BMS Building Management System.

DER Distributed Energy Resource, plant or equipment that can produce, consume or store energy for flexibility trading.

DFS Demand Flexibility Service, the UK national service requesting demand reduction during constraint periods.

DNO / DSO Distribution Network Operator and Distribution System Operator, managing networks at 132kV and below.

DSR Demand Side Response.

ESO / TSO Electricity System Operator and Transmission System Operator, managing the high voltage system.

FSP Flexibility Service Provider, an organisation that trades and accesses energy and flexibility markets.

Gaming Manipulating consumption patterns or baselines to gain payment without delivering real flexibility.

HHD Half hourly data.

IPMVP International Performance Measurement and Verification Protocol.

MPAN Meter Point Administration Number.

PPA Power Purchase Agreement, a bilateral agreement to purchase energy directly from a generator.

Rebound effect The increase in energy consumption after a flexibility event to restore normal conditions.

Sleeving A direct agreement between an electricity consumer and a generator, also known as a virtual network or third party netting.

STOR Short Term Operating Reserve, requiring a minimum of 3MW of generation or demand reduction.

ToU tariff Time of Use tariff, where the price of electricity varies by time of day.

VPP Virtual Power Plant, aggregated assets operated as a single tradeable resource.