Public Document

State of the Art, BE-FASTER

5th Nov 2026.

Short description of innovation and the State-of-the-Art:

State of the art: Currently, energy baselines in the UK are based upon 5 different styles of baseline, as developed by the Energy Networks Association (ENA) under the Standard Baselining Methodology tool (ref: Standardised Baselining Methodologies, Open Networks, August 2025 │Version 1.0) : There is no international guideline that is applicable outside of the UK that is under one umbrella guide. This is partly due to the differing ways in which flexibility is defined and procured.

The 'one single point of truth' when it comes to the use of a baseline is important since flexibility payments are made based on the kW flexibility delivered against a baseline scenario. This is currently opaque to understand for different situations i.e. do you use a whole building meter Vs asset level meter Vs deemed profiles (e.g. for EVs), and which is acceptable by the DNO or NESO for settlement of payments. There are also no accuracy limits set by considering the use of each baseline.

Innovation: There are two main innovations:

1. The Development of an International guide, using global case studies will support a settlement process that provides guidance to both the FSP and the DNO/NESO on the most appropriate methodology to use. This guide has filled gaps from the ENA's SBM particularly on accuracy limits.

2. The platform builds a day-ahead baseline for each meter from half-hourly data, rehearses every meter against its own history before it is offered to any market, and holds a nomination when the error is above 15 per cent.

For our platform demonstration site (test case), we used a building in Glasgow, where three years of real office meter data (Glasgow, July 2022 to May 2025) to test the baseline module in the platform, where an absolute error of 4.58% was determined. Innovation also includes the selection of asset level metering when delivering flexibility where this is installed and available. The 'before' and 'after' meter data will be used to settle payments according to last 5 or 10 similar days, as suggested by both the ENA guide and the International guide.

Collaboration:

Consortio has chaired an International Committee on the development of the M&V and Flexibility guide, established to provide guidance on use of baselines under implicit (behind the meter events) and explicit events, driven by energy and flexibility market signals. The committee comprises of 9 countries (not in the ITEA portal) and 10-12 committee members over the period of the last 2 years of development.

Breker and Consortio will build training courses from the guide for capacity building of energy managers, energy auditors and facility managers.

Co-incidentally, ClimAlign has just started a series of training courses in Turkiye for the Government on Demand Side Response and we are in early discussions on platform use and further training based on the new guide.

Market changes include:

Ireland: the CRU published Ireland's first Flexibility Needs Assessment in April 2026, and its PR6 price control creates a Flexibility Mechanism for 2026 to 2030 that moves money between network reinforcement (a EUR 1.8bn programme) and flexibility procurement. EirGrid's system services move to daily auctions (DASSA) from December 2026, which rewards automated, software-led bidding. Data centres are expected to use about 32 per cent of Irish electricity by 2026. GridBeyond, the Dublin-based incumbent, added EUR 12m from Samsung Ventures in 2026. (Source: Breker market entry assessment, August 2026.)

Turkiye: the energy ministry (ETKB) published 2023 grid emission factors on 26 December 2025, including separate factors for transmission and distribution connections. Turkiye still publishes no residual mix, and no live carbon intensity feed exists. (Source: ClimAlign, September 2026.)

Turkiye also adopted a Climate Law on 2 July 2025, which creates a national emissions trading system with a pilot phase expected from 2026. Turkish Sustainability Reporting Standards (TSRS, aligned with IFRS S2) have required large and listed companies to disclose Scope 1 and 2 emissions since 2024. Since 1 January 2026, EU importers of Turkish steel, aluminium, cement and fertiliser have had to buy CBAM certificates for the emissions embedded in those goods. All three raise demand for auditable carbon data. (Sources: ICAP, July 2025; IFRS Foundation jurisdictional profile for Turkiye; Regulation (EU) 2023/956.)

United Kingdom: the National Audit Office's report on Ofgem estimates about GBP 70bn of grid upgrades by 2031, which strengthens the case for flexibility as an alternative. The Clean Superpower Mission opened funding for consumer-led flexibility.

The BCIA commissioned a report on the UK flexibility market, a sign that the controls industry now sees flexibility as its business. We contributed to this report – and will be participating on a Roundtable at the Smart Buildings Show, 14-15th Oct, 2026, Excel, London.

There is also a consultation from Elexon (proposal by BGED and SSEN) to simplify the nomination baseline proposal, OFGEM that is suggesting that the baseline deadline for submission can be up to one hour ahead. The intended outcome is to simplify participation across multiple markets and allow the use of more recent forecasts – we have applied to be on this committee (FLX CP006). This would impact the M&V and Flexibility guideline being proposed for publication in December 2026.

Elexon's Flexible Market Asset Registration (FMAR) consultation period is coming close to completion (First Draft in November, 2026). This will enable assets to have a unique tag in whichever flexibility markets it is being traded in, enabling fair participation in multiple markets.

Global carbon accounting: the GHG Protocol consulted from October 2025 to 31 January 2026 on revising its Scope 2 guidance. The main proposal is hourly matching of electricity use with clean energy claims, with an exemption for users below 5 GWh a year and load profiles allowed where hourly data is missing. A second consultation follows in 2026 and the final standard is expected in 2027. Corporate carbon reporting is moving from annual towards hourly figures, which is the evidence Carbon Flex produces. (Sources: GHG Protocol, October 2025; EnergyTag.)

European Union, flexibility markets: ACER approved the EU methodology for national flexibility needs assessments in July 2025. System operators were due to deliver the first national assessments by July 2026, and Member States must set national objectives for non-fossil flexibility by January 2027. The network code on demand response, recommended by ACER in March 2025, is in the European Commission's adoption process, with implementation planned from 2027. It sets common EU rules for aggregators, baselines and local flexibility markets. The EU day-ahead market has traded in 15-minute periods since 1 October 2025. (Sources: ACER; ENTSO-E and EU DSO Entity; SDAC.)

European Union, tariffs and buildings: in July 2026 the European Commission proposed amending the Electricity Regulation so that network tariffs reward lower peak demand, through time-of-use and capacity elements, and so that smart meter coverage reaches at least 50 per cent by 2030 and 75 per cent by 2033. The recast Energy Performance of Buildings Directive, due to be transposed by 29 May 2026, requires building automation and control systems in non-residential buildings whose heating, cooling or ventilation systems exceed 290 kW, falling to 70 kW by 31 December 2029. Both enlarge the market for BMS-led flexibility: more buildings with a controllable BMS, more meters to settle against, and a price signal for shifting load. (Sources: COM(2026) 600; Directive (EU) 2024/1275.)

Global electricity demand: the IEA expects data centre electricity use to more than double, from about 415 TWh in 2024 (1.5 per cent of global consumption) to about 945 TWh in 2030, and estimates that around 20 per cent of planned data centre projects could be delayed by grid constraints. Growing demand on constrained grids raises the value of flexibility from existing buildings. (Source: IEA, Energy and AI, April 2025.)

Technology changes include:

Carbon signals: grid carbon forecasts are now an off-the-shelf data service. Electricity Maps launched 72-hour carbon intensity forecasts for more than 100 grid zones in January 2025, and WattTime extended hourly marginal emissions data to 210 countries in October 2024. The signal is no longer the barrier to carbon-led control; acting on building plant and proving the saving is. Commercial feeds also give Carbon Flex a route into grids that publish no live data, alongside ClimAlign's rebuilt hourly signal. (Sources: Electricity Maps, January 2025; WattTime, October 2024.)

Market time resolution: with the EU Day-ahead market on 15-minute periods and EirGrid publishing carbon intensity every 15 minutes, control, baselines and settlement need to run at 15 minutes as well as at the GB half hour.

Security rules for load control: remote control of electrical load is becoming regulated. Under the EU Cyber Resilience Act, manufacturers of connected products such as gateways and controllers have had to report actively exploited vulnerabilities and severe incidents since 11 September 2026, with full obligations from 11 December 2027. In Great Britain, Ofgem published its decision on the load control licensing regime for energy smart appliances (such as heat pumps and EV chargers) on 7 August 2026; regulations are expected by March 2027, and a licence will be required from March 2028. Security evidence such as D4.2 is becoming a condition of market entry. (Sources: European Commission; Ofgem.)

AI: AI remains an enabler when it works from measured data. Once live trading starts, BankEnergi's AI agents will refine the IES digital twin matrix by comparing estimated with delivered flexibility for each event. The agents have been learning from platform activity since November 2025, so the event history they need is already being built.