Project: FAST

Transforming the non-domestic energy market for SMEs

A report written by Hildebrand Technology Limited for the Department for Energy Security and Net Zero, as part of funded Non-Domestic Smarter Tariff Comparisons Innovation Programme.

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Contents

Project Partners

Hildebrand: (DCC Other User), project lead, solution developer, requirement definition, market assessment, supplier engagement and commercial planning.

davies + mckerr: (d+m) energy consumer insight and strategy based on independent, qualitative research.

SE2: market development in the public sector.

Working Research: (David Kenington), explored disruptive routes to market.

Executive Summary

In Spring 2023, DESNZ launched the Non-Domestic Smarter Tariff Comparisons Innovation Programme to develop innovative solutions that use customer data (including half hourly smart meter consumption data) to provide tailored advice, recommendations and/or comparisons of energy tariffs.[i] DESNZ's own cost benefit analysis estimates suggested that tailored tariff recommendations and consumer engagement with smart meter data could "lead to £1.46 bn. of demand shifting benefits."[ii] Currently SMEs (within the scope of the smart meter rollout) are typically unengaged with their electricity and gas tariffs due to a lack of transparency, availability and time constraints.[iii] Meanwhile, many energy providers (suppliers and TPIs) "similarly face considerable challenges in supporting small non-domestic consumers to find the best possible deal given the substantial diversity in consumer needs and contexts."[iv]

Project FAST (Flexibility for AMR and Smart meters via Tariffs), a smarter tariff comparison platform, was developed by Hildebrand to address these barriers. The FAST Network is an energy contract marketplace which streamlines the procurement process via a blockchain network. Two websites were created and designed based on stakeholder input to interface with the network; they are live: Glow for business and The FAST Network.

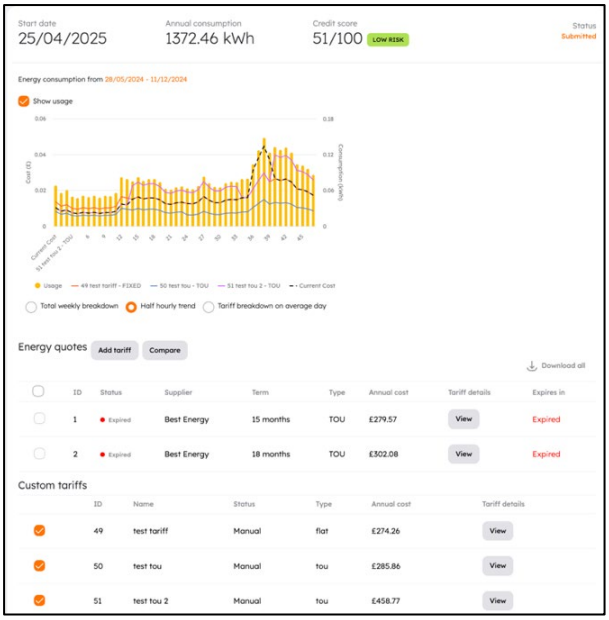
Platform development was informed by three waves of independent small-scale qualitative consumer research with the target market, workshops with local authority small business advisers, discussions with suppliers and desk-based research. SME decision makers interviewed found the Glow for business site informative and practical; they said it addressed several blind spots they currently had with energy monitoring and the contract renewal process. Stand out features included the ability to track historical consumption data and review supplier offers in the context of predicted future spend.

By the end of the programme, business could use Glow for business to create an account and add sites/ meter points to view their consumption and put a tender out for a new contract. An

early scenario planner was also developed to demonstrate the potential impact of battery storage (flexibility technology) on energy costs. The platform achieved Technology Readiness Level 7 (Integrated Pilot System Demonstrated). Once there is a signed-up seller (supplier), the buyer (consumer) will be able to see quotes in context of consumption and get to the point of a new contract offer. The FAST Network is ready for use by suppliers or brokers to upload their price books, review tenders and make offers.

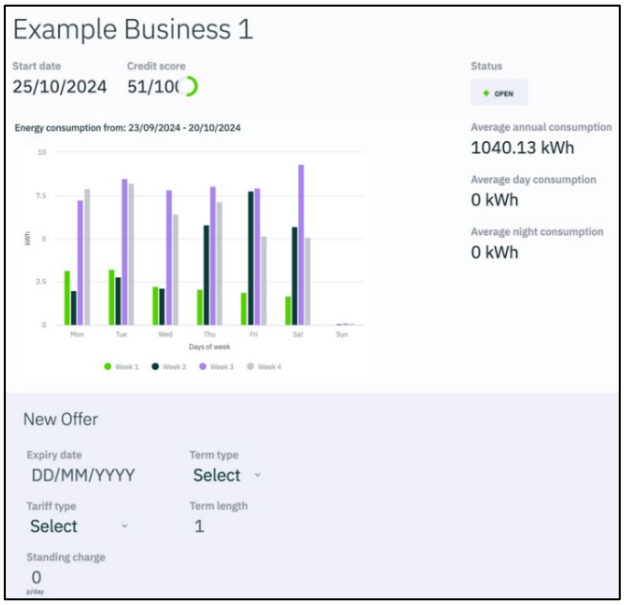
Platform Overview

Glow for Business website screen shot



Glow for business enables SMEs to raise tenders and compare energy contract offers, mapping these offers to their own half-hourly (HH) consumption data to contextualise costs and savings. Not only will SMEs be able to quickly evaluate a range of offered contracts, but the site also shows opportunities for further savings using data-driven hypothetical scenarios. E.g. if behaviours were shifted to move into lower rate time periods and/or low carbon technologies (LCTs) were adopted to enable further flexibility of energy self-consumption.

FAST network website screen shot



The FAST Network offer energy suppliers and energy brokers (sellers) the ability to assess tenders, evaluate risk, make offers and finalise contracts. When a seller wants to fully integrate with the network, tariff quotes can be automated with price book integration, implementation of risk logic / business rules and deliver electronically binding agreements to underpin the smart contract. While brokers can participate with multiple price books, the contract is ultimately always between SME and energy supplier.

Operating behind the websites, The FAST Network is a permissioned blockchain[v] enabling any stakeholder in the network to seamlessly create their own interfaces and integrations via an API. Depending on their role within FAST, users can integrate procurement tools, automate tariff comparisons, develop branded platforms for clients or embed real-time energy insights

and credit ratings into their existing systems. This flexibility enables suppliers and TPIs to create personalised experiences while leveraging FAST's secure and transparent infrastructure. Glow for business and The Fast Network enable immediate access to the network with no development work required; additional custom-built algorithms are available, for example a battery arbitrage model scenario planning tool that demonstrates LCT and TOU scenario planning, showcases the platform's potential.

The FAST Network's focus on facilitating the offering of ToU tariffs and showing them in the context of a) consumption history, b) predicted consumption, and c) having an LCT, complements DESNZ's ambition to "help bring forward demand-side flexibility in this market."[vi] By reducing complexity, FAST aims to improve the speed and likelihood of SMEs changing contract. This should enhance market liquidity,[vii] drive greater competition, lower prices for all participants and encourage the innovation of more tailored tariffs and LCTs through informed decision making for the buyer. It is the delivery of tailored tariffs to encourage load shifting that will provide more flexibility to the UK and, ultimately, contribute to the Net Zero goal.

SME market challenges and opportunities

During the feasibility phase, the project's research[viii] [ix] strongly corroborated existing research cited by DESNZ in their initial competition guidance that "in general, there are low levels of engagement with tariffs in the non-domestic market" due to SMEs "limited awareness of and interest in their ability to switch energy supplier."[x] Through three waves of independent qualitative consumer research[xi] (conducted by agency davies+mckerr), desk research, and meetings with brokers, suppliers, and local authorities engaged with local SMEs,[xii] the project identified key pain points in the market which were used to inform the development of The FAST Network. Among respondents:

1. Many SMEs remain on the same contract after their contracts expire due to time constraints and the perceived complexity of switching.
2. Most SMEs track usage to some extent, but typically through billing cycles rather than dedicated monitoring systems.[xiii]
3. Non-domestic energy suppliers in general have a poor reputation due to poor service[xiv] and opaque billing.[xv]
4. Some suppliers and a broker reported being reluctant to target micro-SMEs due to high acquisition costs and low profit margins.
5. Tariffs and contracts were seen as a complex and fast-moving market.[xvi]
6. Limited tariff transparency and scarce comparison resources leave SMEs uncertain about whether they are getting a competitive deal.

The limited understanding and availability of ToU tariffs for SMEs present a key challenge. Suppliers don't offer them due to perceived low demand, while SMEs can't adopt them because they aren't available. There are key opportunities for FAST:

7. Rising electricity prices have driven consumers to seek cost-saving strategies and adopt new technologies.[xvii]
8. Time-of-use tariffs were widely understood in our consumer research despite uncertainty around the types of businesses (size, sector) that could gain the most from participation in flexibility.
9. Price comparison websites are in their infancy[xviii] with none offering ToU comparison at time of writing.
10. The recent update to the Renewable Energy Consumer Code (RECC) enforces transparency on broker commissions while suppliers are now mandated to provide customers with access to their Half-Hourly data.[xix]

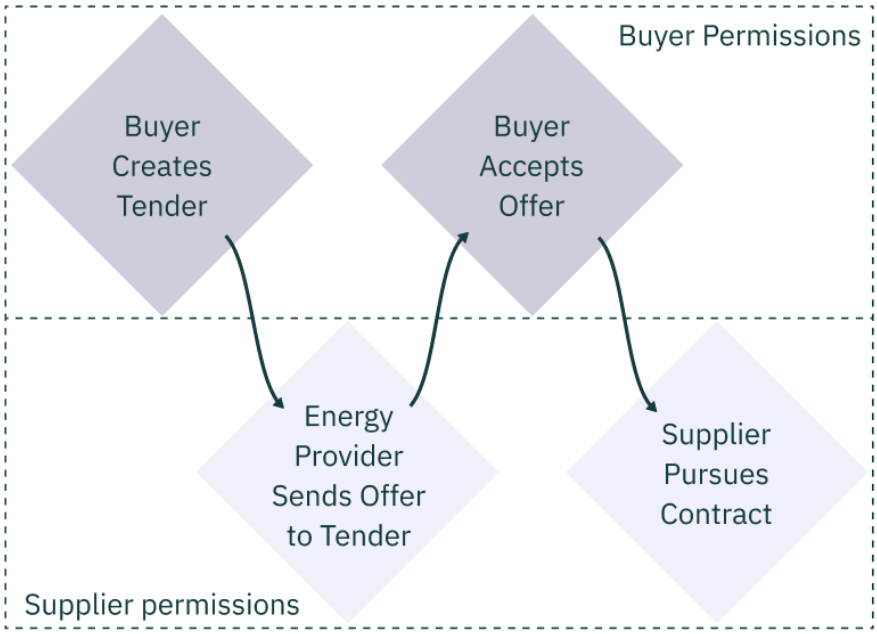
All research findings across the project (d+m's consumer research, SE2's workshops with local authority small business advisors, broker and supplier interviews and Hildebrand's desk-based research) were consistent, building confidence in the accuracy of these conclusions.

The FAST Network securely accesses smart meter data and credit ratings (with consumer consent) to reduce the risk and time constraints that affect many of the challenges outlined above. SMEs can now compare flat rate and ToU tariffs (with or without LCTs) in context of their existing consumption solving the difficulty of tracking usage, comparing prices and providing tariff transparency. For sellers, FAST aims to lower acquisition costs, enable quick feedback on new tariffs, reduce onboarding risks and expand prospect outreach.

How does the FAST Network work?

The FAST Network leverages blockchain, a shared and immutable ledger, to record transactions, track assets and provide reliable data to secure energy contracts between the buyers and sellers. The seller is always an energy supplier whether or not the sale is intermediated by an energy broker / TPI. Hosting the energy contract marketplace on a blockchain ensures that each trade is securely recorded and acts as verifiable evidence that the contract was made.

Example of process from tender to contract

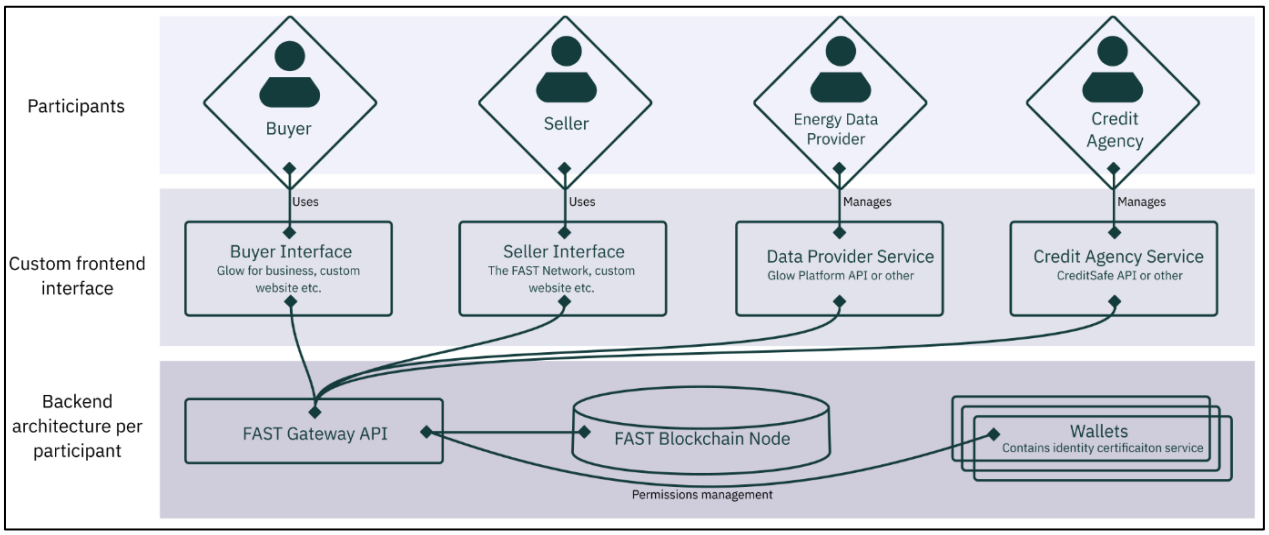


An example of the process from tender to contract: The blockchain's ledger keeps a record of the steps taken to secure the energy supply contract. Throughout the process both buyer and seller can see the buyer's electricity consumption / credit score and the seller's offer(s) so both parties can assess and mitigate risks.

While The FAST Network can record and verify legally binding contracts—allowing the buyer and supplier to e-sign and have these signatures logged on the blockchain—the contract itself must (and will) legally exist as a separate document outside the network to align with BAU industry protocols.

The diagram below shows the various roles of key stakeholders on the FAST network. Each role has permissions enabling them to participate in the network in a certain way; the diagram details how each stakeholder participates in the network.

FAST network: Key stakeholders' roles



Each participant is issued a digital certificate by the certificate authority. This dictates how that participant can interact with the blockchain. I.e. buyers can't offer tariffs but can create tenders. Wallets both store this digital certificate and enable a participant to have multiple people from within their organisation engage in the network (e.g. sales agents at an energy supplier).

Using a permissioned blockchain keeps the network open to future expansion where LCT providers, energy analytics firms, fintech companies or other stakeholders could integrate seamlessly as viable use cases emerge. Landlord organisations are planned to be the next stakeholder category to be added. Desk research shows that businesses renting their property — especially those adopting LCTs — face challenges like securing landlord approval for installations requiring physical modifications or split incentives whereby landlords benefit after tenant leaves but tenant carried the cost. Having landlords as active network participants (as separate nodes) would enable them to quickly approve or reject LCT purchase contracts that require physical modifications while also offering their tenants decarbonisation support and energy efficiency guidance based on their actual consumption.

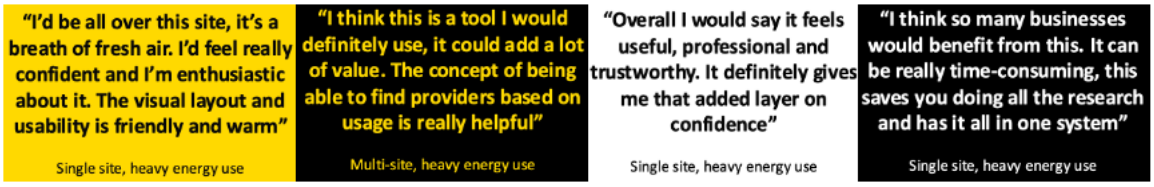
Blockchain offers confidence that the information provided cannot be changed at a later point which is critical when establishing commercial contracts. Information stored on the blockchain is highly secure by design. Readers interested in learning more about blockchain should read McKinsey's guide or IBM's overview.

Initial Feedback

Consumers

d+m conducted three waves of qualitative research across the project to assess the proposition and site. Glow for business was well received:

Summary of qualitative research participants' comments



There was genuine excitement amongst the interviewed SMEs about Glow for business. Participants found the site informative and practical and found that it addressed several blind spots they currently have. Stand out features for all were:

1. Ability to track historical data was particularly helpful – allowing for comparisons over longer periods, and opportunities to identify areas of wastage/ improvements in efficiency.
2. Granularity of data comparisons (hourly/half-hourly trends) is appreciated, albeit not particularly new for those already using energy management portals.
3. Process of getting new quotes felt more informed and data-driven vs. current methods (especially for those not currently tracking energy consumption) and recommendations on type of tariff (fixed/ToU) helped to build trust.

Energy Providers

Feedback from three large suppliers and a broker informed The FAST Network's user interface design. All said FAST aligned with their needs. Stand out features included:

1. **Early visibility of risk**. The up-front credit score and sector information about prospects were very useful for assessing if the prospect met the supplier's required risk profile.
1. **Significantly reduces the cost of acquisition and new contract processing**. This could also help protect micro businesses from being excluded due to high servicing costs.
2. **Provision of accurate data (consumption and MPxN)**. Actual consumption versus today's Estimated Annual Consumption (EAC) and the meters' MPxNs.
3. **Increased opportunities for smaller suppliers**. Attracts new prospective customers.
4. **Speed**. Faster process from tender to signed contract – digitised process and trusted data.
5. **Reduced operational costs**. For example, the automatic processing of price books.

The typical consumption shape for the day / week didn't currently interest the providers we interviewed for the SME market unlike for larger commercial and industrial prospects (outside project scope). As flexibility becomes an imperative, consumption profiles are expected to become more important for suppliers.

Conclusion

The FAST Network currently offers two live websites (Glow for Business and The FAST network) that interface with it. The network places the complexity of the energy procurement process on a blockchain network creating an online marketplace that is transparent, quick and secure. By recording all transactions on an immutable ledger, the network ensures that every contract and agreement is verifiable, reducing disputes and increasing trust between buyers and suppliers. In doing so, it addresses several current market challenges: for buyers it removes the complexity of getting offers and then understanding them in the context of their current consumption; for sellers it streamlines the cost of processing offers, finalizing quotes, reduces wasted effort and brings new prospects. By removing these complexities, FAST aims to increase the market outreach of energy providers and the ease with which energy buyers can compare offers; creating a tariff market that is fertile for innovation due to high trade volumes and increasingly dynamic offers.

Iterating three phases of qualitative research with consumers throughout the project meant that by the end, feedback on the buyer facing solution was very positive, with findings informing platform development.

As for any network, maximising the number of participants (both buyers and sellers) is key to success; expansion is a key priority. While SMEs and a broker have already joined, growing supplier participation is the next critical step in strengthening the platform’s impact. The first accepted new contract offer between an energy consumer and supplier will be a key sign of success and mark the 'launch' of FAST in the market.

Glossary

Term	Description
AMR	Automatic Meter Reading Device – enables half hourly energy consumption profiles to be read.
API	Application Programming Interface: software that allows two applications to talk to each other creating an accessible way to extract and share data within and across organisations.[xx]
BAU	Business as Usual
Contract	A buyer's promise to pay for energy at a particular rate to a seller. The contract is against a meter point that records the amount and time of energy used; it uses smart meter data (SMETS & AMR) and applies rules on rates to determine the cost of energy over the contract duration.
DCC	Data Communications Company: responsible for managing the infrastructure behind the smart meters.
DESNZ	Department for Energy Security and Net Zero – funded FAST as part of the Non-Domestic Smarter Tariff Comparisons Innovation Programme.
Energy Provider	Suppliers, Brokers and TPIs who either sell electricity or intermediate the sale of electricity.
Flat-rate Tariff	An electricity or gas tariff with the same rate throughout the 48 half hourly time slots during the day.
LCT	Low Carbon Technology
Offer	A seller's response to a tender.

Price Book	A price book is a spreadsheet that lists the tariffs and criteria an energy supplier uses to determine offers (incl. region, consumption, etc.)
RECC	The Renewable Energy Consumer Code; aims to ensure consumers installing small-scale home power generation have the confidence and service standards needed to make informed choices.[xxi]
SBRI	Small Business Research Initiative, now Innovate UK Contracts for Innovation[xxii]
Seller	An electricity or gas supplier.
SME	Small and medium sized enterprise[xxiii]
SMETS	Smart Metering Equipment Technical Specification; meters are enrolled in the DCC. Enable half hourly energy consumption profiles to be read.
Tender	The buyer's formal intention to receive a contract offer for electricity or gas in the network.
ToU	Time of Use tariff. Charges different rates based on time when energy is consumed.
TPI	An organisation or individual that gives energy related advice, aimed at helping SMEs to buy energy and/or manage their energy needs.[xxiv]

References

[i] Department for Energy Security and Net Zero, *Non-Domestic Smarter Tariff Comparisons Innovation Programme: SBRI Competition Guidance* Notes (May 2023), p. 13. https://assets.publishing.service.gov.uk/media/67458323a91ce6ead8e9303f/non-domestic-smarter-tariff-comparison-competition-sbri-guidance.pdf

[ii] Department for Energy Security and Net Zero, *Smart Meter Roll-Out: Cost-Benefit Analysis* (September 2019), p.37 https://assets.publishing.service.gov.uk/media/5d7f54c4e5274a27c2c6d53a/smart-meter-roll-out-cost-benefit-analysis-2019.pdf, as cited in ibid., p.15.[iii] "Smaller non-domestic sites in electricity profile classes 1-4 or with gas consumption below 732 MWh/year"(Ibid., p.14)

[iv] Ibid., p.16.

[v] Oracle, *Permissioned Blockchain*, https://www.oracle.com/developer/permissioned-blockchain/

[vi] Department for Energy Security and Net Zero, Competition Guidance Notes, p.13.

[vii] An energy contract market would be considered liquid if contracts can be easily bought, sold or switched between participants with minimal friction.

[viii] Conducted by davies+mckerr in three waves across the project. Wave 1: 9x1 hour qualitative interviews with SME energy decision makers assessing feasibility of smart contract and optimising consumption. Wave 2: 12x1 hour qualitative interview with SME energy decision makers with smart meters, across range of sizes and types; understand challenges and attitudes and review early prototype of Glow for business tool. Wave 3: 10x1 hour qualitative interview with SME energy decision makers on site and in programme scope; insight into their challenges with energy - outcome: segmented users and their needs in context of Glow for business.

[ix] Interviews were conducted with: three of the top ten UK energy suppliers to SMEs; two of the largest energy brokers; six Local Authorities (specifically people responsible for supporting local businesses with energy efficiency, energy contracts, etc.); two large commercial landlords with portfolios of approximately 2,000 properties each.

[x] Department for Energy Security and Net Zero, Competition Guidance Notes, p.16.

[xi] See footnote 13.

[xii] See footnote 14.

[xiii] IFF Research, *Businesses' experience of the energy market 2023: Main Research Report* (March 2024) https://www.ofgem.gov.uk/sites/default/files/2024-03/Businesses%27%20experiences%20of%20the%20energy%20market%202023%20-%20Main%20Research%20Report.pdf

[xiv] Maisie Gibson, *Bad for business: How poor customer service is holding back the non-domestic energy market* (We Are Citizens Advice, Feb 17 2025) https://wearecitizensadvice.org.uk/bad-for-business-how-poor-customer-service-is-holding-back-the-non-domestic-energy-market-63484a7d55d2

[xv] Maisie Gibson, *Stunted Growth: How soaring costs and chaotic billing are holding back British business* (We Are Citizens Advice, Feb 3 2025) <https://wearecitizensadvice.org.uk/stunted-growth-how-soaring-costs-and-chaotic-billing-are-holding-back-british-business-576bb3e2db8c>

[xvi] SE2 research during the project, contact info@hildebrand.co.uk for further information

[xvii] IFF Research - see footnote 16 above

[xviii] Department for Energy Security and Net Zero, Competition Guidance Notes, p.15

[xix] Ofgem, *Best Practice Guide: Non-domestic Billing Transparency* (7 November 2024) https://www.ofgem.gov.uk/sites/default/files/2024-04/Best_Practice_Guide_Non-Domestic_Billing_Transparency.pdf

[xx] Salesforce, *What is an API?* https://www.mulesoft.com/api/what-is-an-api

[xxi] RECC, *Introduction* https://www.recc.org.uk/scheme

[xxii] UKRI, *Innovate UK Contracts for Innovation* https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/innovate-uk-contracts-for-innovation/

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[xxiv] Ofgem, *Third Party Intermediaries: what your small business needs to know* (May 15, 2014), p.1. https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/481_tpi_facsheet_may15_web.pdf

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