Ofgem
10 South Colonnade
Canary Wharf
London
E14 4PU

By email only

14 January 2022

Dear Rachel,

Scope for the Market-wide Half Hourly Settlement reference architecture to operate under the Retail Energy Code

Thank you for inviting the Retail Energy Code Company Limited (RECCo) to consider the case for the Event Driven Architecture (EDA) being developed under the Market-wide Half Hourly Settlement (MHHS) Programme to be governed under the Retail Energy Code (REC) as a REC Service. As requested, this letter sets out our views on the potential benefits of the MHHS EDA being governed and operated under the REC, in order to inform a further decision by Ofgem. We have no objection to this submission being published by Ofgem in full.

Executive Summary

On 14 December 2021, Ofgem published its decision to develop a hybrid system architecture to meet the requirement of the MHHS Programme Target Operating Model. That hybrid approach will consist of some modifications to the existing Data Transfer Network (DTN) to operate alongside a new EDA platform. The specification for the EDA platform is currently being developed by the MHHS Programme, with a Request for Proposals expected to be issued shortly. Ofgem also confirmed that it would consult on which party should be responsible for the ongoing governance, operation and funding of the EDA platform once it is implemented. In order to inform that consultation, Ofgem invited RECCo to submit a self-assessment of its capability to operate the EDA and how it would complement the other consumer centric activities as set out in the REC. This document briefly sets out this assessment.

In considering the extent to which there is a strategic fit between the expected use cases of the EDA and existing REC services, we have considered likely scenarios as identified by the National Grid ESO. We consider that the transition to net-zero requires a more holistic approach to system flexibility than the traditional focus of reducing peak demand and avoiding system imbalance charges. Changes in consumption behaviour and the wholescale participation of prosumers will require the adoption of new products and services that are an essentially retail value proposition. The role of the EDA platform therefore seems to be an ideal strategic fit with the arrangements governed under the REC.

As part of our assessment, we have identified five key themes, as set out below:

1) **Consumers – RECCo and the REC were established to provide consumer-centric governance of the retail energy market arrangements and to deliver positive consumer outcomes**

   We consider that the EDA can facilitate a consumer-centric approach to managing energy consumption, ensuring that innovative business models deliver flexibility while meeting, rather than necessarily constraining, consumer requirements.

2) **Open data – RECCo is committed to the principles of open data, while being practically experienced in providing differing and proportionate levels of access tailored to each user**

Flexibility is just one of the benefits that should be realised through the adoption of innovative and data-driven service offers, which may come from tie-ins with energy intensive products or services, and/or other non-traditional energy market participants. It will be important to ensure that data is accessible on an equitable basis and to required standards, while maintaining appropriate safeguards over privacy and security.

3) **RECCo organisational capability - RECCo is new and growing as the scope of the REC itself evolves and its Executive and operational teams have the skills and experience to procure and/or deliver and operate services and projects such as the EDA for the benefit of REC Parties and the wider energy industry**

We are committed to ensuring that RECCo is an "intelligent customer", ensuring efficacy and value-for-money of the services that it procures and/or manages on behalf of REC Parties. If delivered through the REC, the future operation of the EDA would be overseen by RECCo's expert contract managers. With the support of the performance assurance framework, this will ensure that the appointed service provider continues to meet the requirements initially identified by the MHHS Programme and going forward, of the REC and of REC Parties.

4) **Existing REC and RECCo tools – the REC has been designed to respond quickly to and facilitate innovation, and beneficial change and disruption with stakeholder engagement**

The REC currently has the broadest participation of energy industry stakeholders, all of whom are entitled to propose and advocate change. We consider that there is scope to realise further synergies and efficiencies through integrating the operation of the EDA with that of other services that are, or will shortly be, provided through the REC. For instance, the Energy Market Architecture Repository (EMAR) is not simply a digital version of the REC, but as the name implies could form a digital twin of wider systems and processes, ensuring more effective end-to-end assessment and management of change. Incorporating relevant EDA artefacts into the EMAR at the design, build and test stage should better equip industry parties to deliver change in a timely fashion.

The REC has an open governance model allowing anyone to submit a Change Proposal and engage in the change process. Should future changes to the EDA be required in order to better meet electricity central settlement requirements or to facilitate the Balancing and Settlement Code (BSC) more generally, any of Elexon, the BSC parties or any BSC service provider could raise these directly to the REC. Any change raised to the BSC itself which had an impact on the EDA or wider REC arrangements would also be identified and impact assessed through the Cross-Code Steering Group, which was set up to foster such collaborative arrangements between the REC Code Manager, Elexon and other governance bodies. The REC Code Manager also has the mandate to raise any Change Proposals which may be required to maintain consistency between the REC and external governance, as appropriate. RECCo is committed to ensuring that effective stakeholder engagement takes place and that all stakeholders have the ability to engage and have their voices heard before any change decision is made. We believe that this is particularly important during detailed design. The availability of stakeholder resources is critical to ensure that a service meets the needs of its users and broader stakeholders, and to avoid the expense and potential delay of subsequent variations.

5) **EDA 'use cases' could be broadened to deliver a forward looking, multi-energy vector market to deliver net-zero – as the REC is a dual-fuel code RECCo already has a multi-energy scope, which could be extended directly or through partnering with other organisations to deliver solutions for further energy vectors such as hydrogen, storage and heat where beneficial to retail consumers**

   We consider that there is considerable work to be done in building the levels of consumer trust and participation in the market that will be required to deliver the levels of flexibility required to fully facilitate a transition to net-zero rather than marginally reduce peak demand. The REC will have an important role to play in ensuring that dynamic Time of Use tariffs act as a catalyst for, rather than potentially complicating or stymying, effective competition between retail suppliers, who are increasingly likely to have diverse service offers rather than compete simply on the basis of price per unit.

   Whilst predicated on the need to transfer timely data to improve the accuracy of electricity settlements, the EDA should be viewed as the opportunity to deliver a critical platform to facilitate the effective and real-time operation of the energy market. This may include acting as a platform for peer-to-peer trades and local balancing actions which may improve the economic case for small-scale renewable investment, reducing overall system cost and further contributing to net-zero. It could also be utilised to deliver further interactions between electricity consumption and other aspects of the value chain such as heat or transportation, in order to deliver a flexible, efficient, and resilient multi-vector and low-carbon energy system. Data exchange and messaging within and across energy vectors will be increasingly real time, and it is likely that the whole energy industry will transition to event driven architecture solutions. As the consumer is ultimately common to all vectors, retail energy may have the largest need for these solutions, meaning RECCo is well placed to govern and manage the EDA now and into the future.

We expand on each of these themes below and set out why they suggest to us that the EDA would be a good strategic fit to be operated under the REC rather than elsewhere in the industry codes architecture.

About RECCo

As you know, RECCo was formed as the corporate vehicle for ensuring the proper, effective, and efficient implementation and ongoing management of Retail Energy Code (REC) and to promote innovation, competition, and positive customer outcomes. Part of RECCo's remit includes providing knowledge and expert opinion on retail energy issues to support the efficient and effective running of the retail energy market. RECCo is therefore responding to the invitation from Ofgem in line with its mission statement and strategic aims. We are an independent, proactive, and forward-looking non-profit company set up to simplify, improve, and drive innovation in the retail energy market.

The REC itself represents a step-change for the industry with a mission to elevate customer outcomes through promoting innovation and competition. Our operating model provides an opportunity to create a new standard for code governance to transform the nature of decision-making in the energy sector. It will put consumer outcomes at the heart of the arrangements, provide an accessible set of rules in plain English and digital format, and introduce new robust technical and performance assurance frameworks for industry players.

We are committed to ensuring that RECCo is an "intelligent customer", ensuring efficacy and value-for-money of all of the services that it procures and/or manages on behalf of REC Parties in accordance with the REC.

RECCo has adopted an outsourced service delivery model. This model enables it to achieve two key objectives. Firstly, service providers are required to deliver against contracts with clear requirements, quantitative and qualitative standards (KPIs) which have financial and contractual consequences for non-performance and to demonstrate continual improvement. Secondly, it allows for periodic procurement of best in class service providers, securing value for money through competition and allowing RECCo to take advantage of new ways of working and technology advances.

RECCo has established a human capital and operating environment which proactively manages its service providers. RECCo contracts with a suite of delivery partners including technology and data management services, professional services and performance assurance services and would expect the EDA delivery partner to be comparable in size and presence as our existing providers.

RECCo response

We consider that the delivery of market reforms including those of the MHHS Programme should adopt as far as practicable a consumer-centric approach, tailoring service delivery to the needs and requirements of consumers rather than vice versa. To that end, we have set out below, our initial assessment of the appropriateness of EDA being governed under the REC, using the criteria previously shared by Ofgem. However, these are for the most part a snap-shot of organisational scope and competencies, that have been tailored to meet the requirements of the prevailing code. It would be relatively straightforward to modify the governance of the REC in order to enfranchise a new set of market participants if required. We believe that the most important consideration in determining the appropriate long-term governance of the EDA will be the logical and strategic fit with other functionality, systems and processes governed under that code which may move the industry towards a more effective whole-of-system approach.

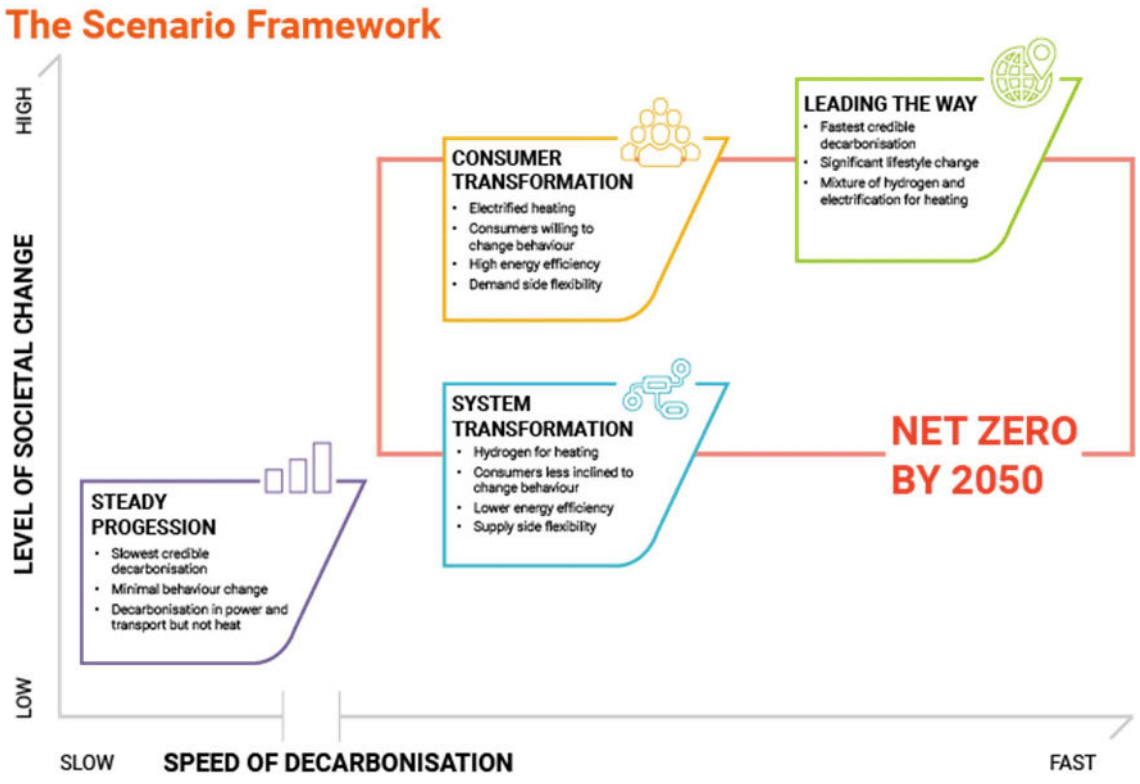
Delivering net-zero – scenarios

Half-Hourly Settlement has traditionally focused largely on reducing settlement costs through avoiding imbalance charges, and on the demand-side response that would reduce the need for additional network

and generation investment through reducing peak time usage. However, the transition to a decarbonised electricity system with increasing reliance on intermittent generation calls for a much broader adoption of dynamic Time of Use (ToU) tariffs and mass participation in flexibility mechanisms. Small, but widespread assets such as electric vehicles or other battery storage devices, and micro-generation will become increasingly important to the resilience of the electricity system, not only to shift load from periods of peak usage but to fill any shortfall from expected wind generation. In effect, many consumers with such assets will also be potential producers, commonly referred to as *prosumers*. We consider that a more consumer-centric approach to the governance of these arrangements is a natural fit with the objectives of the REC and RECCo, particularly if they form part of a transition to the provision of energy as a service rather than as a commodity product.

The National Grid Electricity System Operator (ESO) set out each year a number of Future Energy Scenarios. Those scenarios have in recent years become increasingly focused on the need to transform and decarbonise the electricity system in order to meet net-zero emissions by 2050, rather than simply on the security of supply. The ESO sets out four broad scenarios, of which all but *Steady Progression* should meet the 2050 net-zero target. We consider that the MHHS Programme should be largely agnostic, capable of meeting the future requirements of the electricity market whatever they may be.

The ESO also points out that the three scenarios capable of delivering net-zero; *System Transformation; Consumer Transformation* and *Leading the Way* each assume significantly different levels on societal change, technological innovation and investment, see below:



Source: NG ESO Future Energy Scenarios

However, a key message of the ESO is that changes to consumer behaviour are pivotal to decarbonisation under any scenario, including Steady Progression and that those most likely to meet net zero by 2050 include significant lifestyle and transformational change, not least by consumers. However, a key message from the report is that changes to consumer behaviour are pivotal to decarbonisation under any scenario, including Steady Progression.

While consumers are no doubt increasingly aware of and concerned with climate change and the impact their own behaviour may have, including personal energy usage, alongside this there is still a relatively low level of engagement in the energy market. This will need to be addressed if the effective delivery of net-zero policies is dependent upon the widespread take up of new products and services, and ultimately the expected change in behaviours. The results of the CrowdFlex project[1] suggest that if there has been a widespread take up of Electric Vehicles by 2030 and the owners are highly engaged and react to price signals through ToU tariffs, peak demand on the grid could be reduced by as much as 10%. However, the project also set out an alternative scenario where the impact could be as little as 1%.

Going forward, far greater levels of response may be required as the problem is not simply to reduce peak demand during predictable time periods, but to dynamically and intelligently respond to fluctuations in renewable but intermittent generation. This may require pre-determined and automated responses to dynamic price signals rather than requiring a human to react in a timely fashion to those price signals. It is also likely that those price signals will be less predictable than those traditionally offered by ToU tariffs. The system must also be targeted and avoid an over-reaction, prompting the appropriate level of local response, rather than for instance a sharp and disproportionate uptake or reduction in consumption by all consumers on a ToU tariff or possibly in the wrong location, which may create a different set of problems. Delegating such decisions to an automated system and/or service provider will require the consumer to place trust in them to continue meeting their own needs and act in their best interests, not to subordinate them to the needs of the system operator.

The proliferation of smaller scale and smart assets may reduce the need for consumers to change their behaviours in a way that is noticeable to them or impacts upon their lifestyles. With their prior consent, their consumption may simply be flexibly and autonomously managed and balanced with appropriate response as required from both the demand-side and the supply-side. However, the relative importance of price versus convenience and other factors will differ from one consumer to the next, even if their overall consumption and access to assets such as such as Electric Vehicles EVs may otherwise be comparable. It is therefore important that the data and functionality offered by the EDA can be utilised in order to develop retail offers tailored to each consumer segment.

We consider that these smaller scale and local interventions may appropriately be delivered through a de-centralised model of Distribution System Operators (DSOs), rather than necessarily at a national level.

All of the above provides a strong indicator that future participation in the market will extend beyond licensed suppliers and generators. Critically, it will include DSOs, consumers (or *prosumers)* and any third-party intermediaries or new entrants that may emerge to provide and manage the emerging business models and peer-to-peer trading. This approach, and the need to ensure its interoperability with consumer switching means the governance is ideally suited to the REC. Of course, REC governance would also need to complement the upstream activities of the energy value chain, as may be governed under other industry codes such as the Balancing and Settlement Code and the Distribution Connection and Use of System Code. Given the proposed hybrid model we would also seek to ensure the effective interoperation with the Data Transfer Network.

[1] The CrowdFlex project assessed the responsiveness of around 25,000 domestic consumers to price-signals and notifications, and was backed by National Grid ESO, SSEN and Octopus Energy, with financial support from the Ofgem Network Innovation Allowance.

Data Governance

Whilst not explicitly part of the current MHHS proposals, we consider that a fully flexible system will require a third tier of registration data, with a national register of relevant assets being added to existing registers of supply points and of consumers. This would be consistent with Recommendation 4 of the Energy Data Task Force[2]. However, that asset data will increasingly include consumer data, rather than being associated with traditional market participants, i.e. whether the householder has purchased an Electric Vehicle, or other large electricity powered device. Access to and use of that data is likely to be subject to decisions made by the consumer as part of any contractual arrangements they have entered into with the supplier as part of an energy contract, whether as part of a tailored package with a ToU or otherwise. To the extent that the EDA and the events that it will reference, including those required to flexibly keep the system in balance, are dependent upon dynamic customer data rather than for instance the relatively fixed technical characteristics of the meter point, it will be important to that the governance is fit for that purpose.

RECCo is already the custodian of various consumer data. We therefore consider that there is a natural synergy between the EDA operation and the role that the REC already plays in the governance of services, including the Electricity (and Gas) Enquiry Services and the Central Switching System. It will be particularly important that the data from the various registers is capable of being integrated, and that there is interoperability between the provision of dynamic ToU tariffs, so that it does not hinder consumers exercising choice through switching. Digital tools such as the Energy Market Architecture Repository (EMAR) would assist us in this. The EMAR is capable of being a rich source of information and could provide a fully joined up and interactive view of the wider energy system.

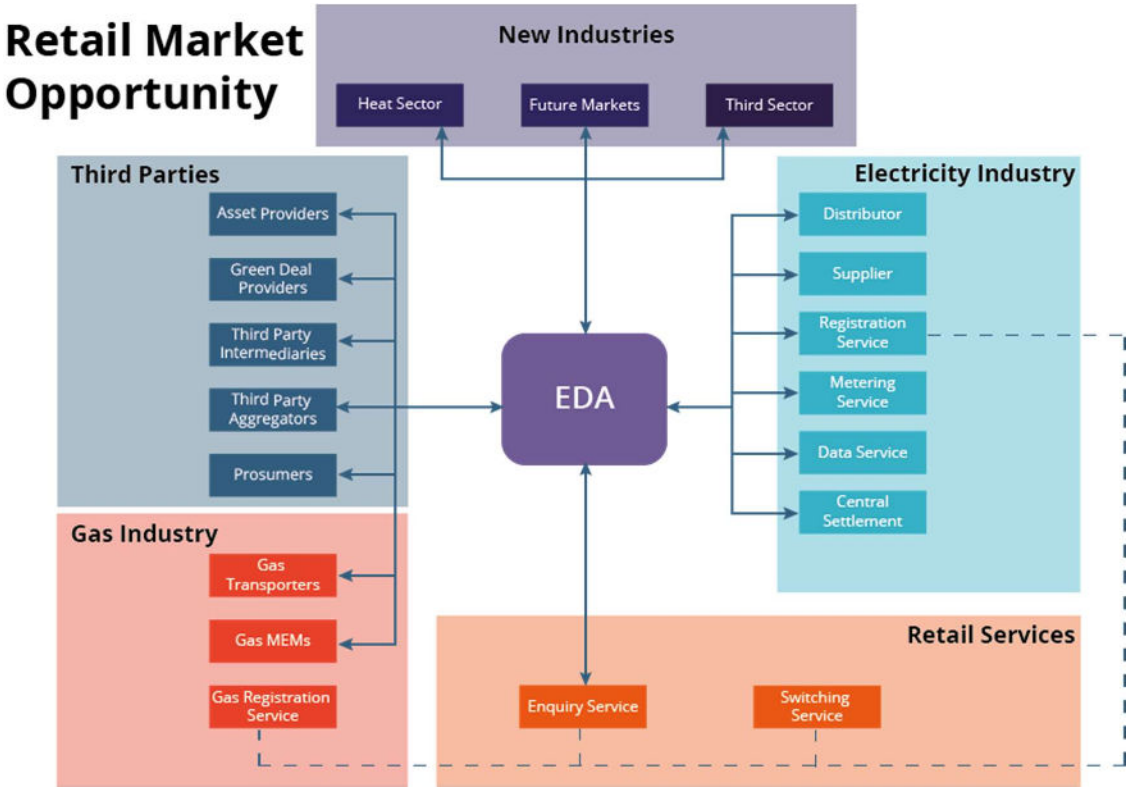
Through the EMAR, we have already taken steps to consolidate and standardise data catalogues.[3] Given that MHHS will require the registration of new categories of asset and the integration of that data with existing data sets, it is timely to pursue a wider standardisation of data through common data catalogues. This would be consistent with the Energy Data Task Force recommendations and the proposed RECCo data strategy. This standardisation will in turn drive better standards of data quality.

Data exchange and messaging within and across energy vectors will be increasingly real time, and it is likely that the whole energy industry will transition to event driven architecture solutions. As the consumer is ultimately common to all vectors, retail energy may have the largest need for these solutions.

Having the EDA governed through the REC would fully the requirements of the MHHS Target Operating Model but would also open up access to a wider range of market participants, better facilitating innovation in business models and services, which can be developed with a whole-of-system lens. It would also more readily facilitate further convergence across fuels and with heat, as illustrated at a very high level below:

[2] See: Energy Data Taskforce Report

[3] Some parties have suggested a preference for the former data catalogues, though primarily due to a presentation and formatting rather than with the principle of standardisation – this feedback has been taken on board by the Code Manager and a more user-friendly format developed.



We are also committed to championing open-data. Subject to appropriate checks and balances around the privacy and processing of personal data, we would ensure that asset registration data is made available to any party with a legitimate interest on an equitable basis to that enjoyed by any REC Party. We recognise that this will likely facilitate innovation and positive disruption to the traditional business models, to the benefit of consumers. As part of our recent draft strategy and forward work plan, we have also proposed to further develop REC governance that will be applicable to and assure the activities of Third Party Intermediaries. Although these proposals are initially focused on the data that TPIs may access through the existing enquiry services, in principle, these proposals which will also be in keeping with Ofgem own data best practice principles, could apply to any future access to asset registration data.

RECCo MHHS assumptions

RECCo is pleased to be considered as the enduring operator and custodian of the MHHS EDA service. The procurement and/or subsequent management of services on behalf of industry parties is RECCo's core competency. RECCo's early recruitment was focused on building an expert team with the regulatory experience, programme management skills, operational competency, commercial acumen and financial discipline to be the enduring custodian of large energy market programmes, enabling RECCo to fulfil the role of Senior Responsible Operator through Design, Build and Test of new services, as well as the recipient of a programme which has been led by others.

For instance, RECCo was the equivalent of the Senior Responsible Operator in relation to the establishment of the REC Services, being accountable and responsible for every aspect of the implementation of the REC service from: service definition (including the Design, Build and Test of systems (REC Portal and EMAR), procurement of contractors, project management of contractors

through to successful service implementation (including the transition of pre-existing legacy contractual arrangements) together with funding arrangements from REC Parties.

For the CSS Programme which will come under REC governance, DCC has overall accountability and responsibility for delivery of the programme and RECCo's involvement has been as the future custodian of the service provided by DCC in an oversight capacity funding Project Assurance activities, in ensuring that the service is ready to enter operation under REC governance, and separately as a Party Under Integration providing a business critical service (the Electricity Enquiry Service).

Consequently, RECCo has the requisite skills and experience to ensure the successful integration of the MHHS programme into the REC either in a leading or in a more supportive role.

To date, we have not been closely associated with the MHHS programme and particularly, the service definition and procurement of the principal contractors.

RECCo's role in contracting

It is RECCo's expectation that any Service provider contract for the MHHS programme should reflect commonly accepted commercial contracting principles, including but not limited to those illustrated below:



RECCo's role in decision-making

If chosen as the most suitable enduring custodian of the service, RECCo would expect to contribute meaningfully to the development of the EDA Service Provider contract, in particular to the following steps:

- Ensuring that the contract let meets the commercial contracting principles above;
- Supporting contract negotiation;
- Approving of the final service provider contract;
- Determining service provider selection criteria;
- Consulting with Service Users as appropriate; and
- Authorising and approving changes which impact enduring service costs.

RECCo's role in Programme Governance and Programme Funding

The governance arrangements and funding are clearly dependent upon the choice of enduring custodian of the service.

We note that the MHHS Programme has an overall budget of £90m for the period 2021-25,[4] to be recovered from BSC Suppliers on a per meter point basis in accordance with BSC Modification P413.[5] However, we understand that this may not include all costs associated with the design, build and test of the EDA as it was not part of the original programme plan. As this additional activity will continue to be overseen by the MHHS Programme irrespective of which organisation is chosen to provide enduring governance of the service once it is operational, it would be helpful if Ofgem or the MHHS Programme could confirm what level of additional funding may be required, and if this is expected to be recovered through REC charges what role RECCo will be able to play in supporting the MHHS Programme to appropriately control those costs.

However, we are also aware that the EDA could effectively go-live and be considered to be operational around a year before the end of the MHHS Programme itself, implementation will continue for its duration to governed and paid for by Elexon's approved budget and that, if chosen as the enduring custodian, RECCo would assume accountability and responsibility for governance and funding in Autumn 2024 after successful Go-Live. In keeping good practice and our commitment to provide a good faith estimate of the 3-year projection of our costs in delivering services under the REC, we included within the recently published draft strategy and forward work for 2022-2025 a provision for the operational cost of the EDA in the second half of 2024/25, subject to Ofgem's decision on it future operation.

MHHS programme costs are currently recovered from suppliers based on the number of Metering Systems that are registered to them at the start of each month. Metering System IDs and the Metering Point Administration Numbers used for REC cost-recovery are essentially the same thing. Although the RECCo budget is currently recovered from all suppliers, individual cost items could be recovered on a fuel-specific basis. Therefore, funding requirements could be readily transferred from the BSC to the REC if necessary, on a cost-neutral basis for both electricity and gas suppliers.

If RECCo is appointed to be the enduring EDA operator we consider that it may be appropriate for us to have a more integral role in the MHHS Programme governance, for instance through active participation in the Programme Steering Group (PSG) and other governance groups as appropriate.

RECCo's role in Enduring Governance and Funding

Our working assumption is that upon Go-Live of the EDA or following a period of Early Life Support as appropriate, RECCo would take on the accountability and responsibility for the EDA service, and seek to recover those costs through a targeted REC Change.

While the REC is primarily funded by suppliers, we are also able to target cost-recovery wholly or mainly from the users of a specific service where that is considered to be a more appropriate model. For instance, the cost of the operating the REC Portal is allocated across all suppliers as it is a largely fixed cost, with no marginal cost to RECCo arising from its level of usage. Other services, while similar in nature, may attract a volume based usage charge where the service users' discretionary use of the system drives a marginal cost that can appropriately be targeted rather than socialised. Some service such as metering accreditation can be entirely cost targeted upon the recipient of the service.

[4] See: https://www.elexon.co.uk/documents/operations-settlement/market-half-hourly-settlement/market-wide-half-hourly-settlement-mhhs-programme-budget/

[5] BSC P413: 'Market-wide Half Hourly Settlement Programme Manager'

At this stage we have no views on what the appropriate cost recovery model for the EDA may be, but if selected to be its custodian we would develop appropriately robust and equitable charging methodology proposals based on the appointed service providers own charging structure, and consult with relevant REC Parties and other services users as appropriate.

We note the REC has an open governance model, which allows any interested party to raise a Change Proposal and to participate in its subsequent development. Should any future change to central settlement systems require a consequential change to EDA arrangements in order to be given full effect, Elexon would be able to propose such change in its own right rather than await a change sponsor. These changes would then be expected to progress via the Cross-Code Steering Group and associated procedures established as part of Retail Code Consolidation. To the extent that any bespoke arrangements may be requirements, this will also be possible within the broader REC governance framework, as is currently proposed in relation to the operational requirements of the Central Switching Service.

Closing remarks

We welcome Ofgem taking a broad and forward-looking approach to its decision on the future governance and operation of the EDA platform. As set out above, we consider that this would be an ideal strategic fit with the other consumer-centric activities undertaken by RECCo as:

- Settlement reforms including MHHS must be designed to benefit consumers; the REC was set up to be consumer-centric. The changes to consumer behaviours that will be necessary to deliver net-zero are essentially a retail value proposition, best managed at the interface between the industry and consumers;
- We are a not-for-profit organisation that is committed as part of our strategy to delivering upon the principles of open data terms. We are championing this approach across all our services and elsewhere. Appropriate and equitable access to such data will be key to the development of new business models, products and services, including the transition towards energy as a service, subject always to appropriate legitimate privacy and security arrangements;
- The REC is an inclusive and accessible code, designed to facilitate and champion beneficial change, whether driven by traditional market participants or innovative and disruptive business models. We have also embraced a collaborative whole-of-system approach, intended to deliver consequential and complementary change across other codes and elsewhere in an effective, timely and consistent manner. Our digital tools such as the EMAR were designed to facilitate such whole of system assessment and change management. The potential for the EDA platform to deliver cross-vector functionality may require such an approach;
- We have 17 service providers under contract to deliver the services required by the REC. While some of these contracts may be consolidated in due course, we are geared towards the effective management of such contract regardless of their value. Within our suite of REC Services are several data management systems. Oversight of the appointed EDA provider would be comparable to that of the Central Switching Service operator, which we will take on this summer. There are therefore significant synergies between our existing role and responsibilities and those expected of an EDA operator; and
- The transformational change to deliver net-zero is unlikely to delivered by individual industry sectors, or elements of each supply chain working in isolation. Effective collaboration is one of our organisational core values and we are committed to ensuring positive consumer outcomes, and in order to achieve them will seek to establish effective partnerships where they do not already exist.

We are happy to support Ofgem in its further thinking and in the presentation to stakeholders on 3rd February 2022.

If you have any queries, please contact Jon Dixon, Director of Strategy and Development (via: info@retailenergycode.co.uk) in the first instance.

Yours Sincerely,

Sid Cox

CEO, RECCo Ltd

CC: Chris Harden, MHHS Programme Director

Appendix : Summary self-assessment of current RECCo competencies applicable to EDA operation

Criteria	Initial view
Extent to which the organisation's remit is aligned to the types of data being processed by the EDA, their current uses and future likely uses.	The REC is the Governing Code which is accountable for the Retail Energy Market and has principal accountability for consumer issues. The REC is a multi-fuel (currently gas and electricity) code and could be readily updated to include other multi-vector energy if appropriate, such as hydrogen or heat, efficiently leveraging EDA capabilities for those areas as well as future data requirements that may emerge. RECCo is aligned to the consumer. The vast majority of the data it controls is consumer consumption data. As such, RECCo is best placed to govern and oversee the management of the EDA that will serve as a platform for activities utilising such data. The REC is an open code in so far that all publicly available materials are open to any individual. Any person or organisation can access the REC and put forward a Change Proposal. RECCo is experienced with applying appropriate and effective Data Protection, controls and access mechanisms as required by the REC. As such, RECCo already provides different levels of access to Parties and Non-Parties, according to the user's credentials. Given the breadth of parties that have acceded to / comply with REC, this also gives the broadest possible coverage of energy industry participants and would avoid fragmentation of governance which has , inhibited the pace of innovation.
Demonstrate principal team's experience & capabilities relevant to procuring and overseeing a system similar to the EDA, which may include:	The RECCo Executive team has the practical experience and capability of procuring and overseeing the implementation of large scale IT transformational projects within the energy sector. RECCo's CEO successfully re-platformed the end to end systems for the UK's largest B2B supplier in a £100m+ project. RECCo's Operational Director and Finance Director were responsible for defining the requirements and successfully procuring the REC Code Manager services which went live in September 2021.

	RECCo has identified the need in its Strategy and Forward Work Plan to recruit a Director of Data, Technology and Transformation with a view to accelerating disruption and innovation in the use of energy data and the delivery of projects. The day-to-day operation of the REC is overseen by a new Code Manager function, delivered through a collaboration of three competitively procured organisations who are each expert in their own field, which we are confident will combine to produce a demonstrable 'best of breed' service. Each of those organisations also has vast knowledge and experience of the GB energy industry, including participation in the delivery of projects comparable to the MHHS EDA, including the Smart Metering and the Central Switching Service.
Effective Data Governance and Compliance Processes	RECCo is already a Data Controller including, in respect of the Electricity Enquiry Service (and shortly, Gas) and the Green Deal Central Charge Databases. We currently apply robust procedures for managing access to this data, including the development of Data Protection Impact Assessments suitably informed by specialised legal advisors. Generally, the REC provide for the assurance of data being used for legitimate purposes, including an ability under the REC to undertake audits of REC service users as necessary. As set out in our recent draft strategy documents, we will shortly create a new Data, Technology and Transformation team within RECCo, which will include a dedicated Data Protection Officer. RECCo is itself also subject to the oversight of the Performance Assurance Board, which with the support of the Code Manager will act as a further check and balance on all data related activities which include balanced and comprehensive data governance and compliance.
Maintaining Data Architectures including the personnel to make changes	RECCo includes the REC Technical Services (RTS) role. This role includes architecture, implementation and ongoing management of the EMAR platform which contains the energy market business and data architecture. The RTS provision includes a data architecture capability which maintains the underlying EMAR data architecture (the meta model). The Energy Market Architecture Repository (EMAR) enables effective management, change impact

	assessment and roadmap planning for the energy market data architecture. Incorporating the EDA data architecture and design into EMAR would be a natural progression whilst also benefitting REC parties and consumers by providing a single consolidated point of access and a streamlined customer experience. It would also enable more effective change impact assessment across the whole energy system as further change is implemented in order to achieve the energy transition. One of the functions of the RTS is a Technical Design Authority which is responsible for the impact assessment of any change proceeding through the REC. The RTS role is undertaken by Capgemini. Consequently, RECCo has contracted access to one of the leading consultancies in IT consulting digital transformation, and technology services whenever it needs to call upon technical expertise.
Customer Onboarding and Issue Management Systems	The REC Code Manager has developed a detailed approach to managing the onboarding of new REC Parties and Services Users, ensuring that they are fully informed of, and able to meet, all necessary entry requirements. These requirements are tailored to the role that the applicant will play in the market, using a risk-based approach to facilitate controlled market entry. This both ensures that the applicant will be prepared to discharge their obligations, and prevent risk to other market participants that may otherwise arise through diminished interoperability, poor data handling, etc. All queries and issues that a REC Party or other stakeholder may have are handled through the REC Portal, which provides a fully digital helpdesk and knowledge repository. The Code Managers are subject to robust Key Performance Indicators and may face financial liabilities or other consequences if they are not met. These contractual provisions are overseen by RECCo. itself subject to oversight of the PAB.
Data Discovery, Publishing and Transparency Processes	RECCo, through its leading EMAR service, has enabled a step-change in the transparency and accessibility of data to energy participants and to consumers. EMAR links codes, clauses, obligations, roles, processes and data to enable participants and consumers to easily access and understand how the energy market works. It presents relevant

	information and enables people to explore what is relevant and of interest to them through a simple, hyperlinked experience. RECCO EMAR could provide a 'whole energy system' view for energy data. In line with the Energy Data Task Force recommendations, RECCo intends to embrace the principle of 'presumed open', initially through EES then out to other services, and to champion the same standards elsewhere, balancing this with the need to retain appropriate controls for personal information in compliance with GDPR legislation.
Ability to put appropriate funding arrangements in place for the EDA	While the REC is primarily funded by suppliers, we are also able to target cost-recovery wholly or mainly from the users of a specific service. Any costs which are not to be recovered by suppliers alone pro rata to their market share would instead be recovered in accordance with the REC Charging Methodology Schedule. This currently include bespoke charges for the Electricity Enquiry Service and will shortly include the Gas Enquiry Service. To the extent that the funding of the EDA should be recovered only from users of that service, this could be readily accommodated with a change to the REC Charging Methodology Schedule similar to those for the EES and GES. Alternatively, the change could set out that the costs would be recovered from electricity suppliers only, and on the same basis as their current contributions to the funding of the MHHS Programme. Our working assumption is that the DBT costs of the EDA would continue to be funded as part of the MHHS Programme until it goes live. We have made provision for the EDA operation costs to be recovered under the REC from Q3 2024.
Ability to put appropriate governance arrangements in place e.g. handling change, role of parties in governance etc	All gas and electricity suppliers, distribution network operators and transporters and accredited Metering Equipment Managers are obligation to accede to and comply with the REC. Any person can raise a change to the REC, which may range from simple guidance through to mandatory requirements upon parties that will be overseen and if necessary enforced by the Performance Assurance Board (PAB), supported by the Code Manager. While stakeholders will remain integral to the development of and consultation upon any change proposals, the REC is no longer dependent upon industry working groups for the development of

	proposals. This has historically lengthened change timescales, with development time being limited by party availability. This could also provide opportunity for those who were opposed to a change to delay, or otherwise undermine it. These and other issues associated with conflicting interests and incentives were highlighted by the Competition and Markets Authority in its investigation into the energy market as having an adverse effect on competition. Instead, the REC has been developed with a more proactive and autonomous role for the Code Manager, supported by Subject Matter Experts and other advisors as may be necessary, to prioritise and develop change proposals independent of what may be conflicting commercial interests. While it is early days in the operation of the REC, we consider that the model we have adopted for the Code Manager will address many of the problems previously identified with industry code governance and has been recognised as a positive development to be built upon as part of any wider code governance reforms. Of course, the REC itself will also need to adopt and incorporate any lessons learnt and/or the outcomes of a further Ofgem and BEIS led code reforms.
Stakeholder relationships	The REC currently has the broadest reach and participation of energy industry stakeholders across existing industry codes. The REC is a dual fuel arrangement requiring all licensed energy suppliers, gas transporters, electricity distribution network operators, metering equipment managers and the Data Communication Company (DCC) to accede to the REC. This provides many benefits in addition to the open governance nature of the REC change process which enables any stakeholder with the ability to engage, propose and advocate retail market change under the code. Effective stakeholder engagement is a fundamental part of the REC Service. A stakeholder engagement strategy has been developed and is continually evolving against an objective of understanding the needs and wants (now and in the future), issues and priorities of all REC stakeholders. Working with RECCo, the Code Manager has put in place a number of vital arrangements for stakeholders to meet this objective and to ensure stakeholders are fully supported in navigating the code arrangements. This includes a continually evolving knowledge repository of digital training materials, to targeted stakeholder events and drop in sessions and allocating each REC Party

	organisation to an Operational Account Manager who can provided specific information to the organisation and expert support against an understanding of their needs under the code. We believe this framework is readily adaptable to support the needs of a growing base of stakeholders under the REC and against our commitment of all stakeholders' having the ability to engage and their voices be heard, whether that's within a programme or during everyday code participation. RECCo is committed to ensuring that effective stakeholder engagement takes place and that all stakeholders have the ability to engage and have their voices heard before any change decision is made. We believe that this is particularly important at the outset of a programme or project and during detailed design in order to ensure that a service meets the needs of its users and broader stakeholders for the long term. Feedback we have received from REC Parties suggests that many are currently struggling to adequately resource and keep abreast of developments on both the MHHS and the parallel Switching Programmes. This is a particular concern in relation to the detailed design phase, which is essential to the eventual success of the MHHS Programme. We understand that some parties may invite Ofgem and the MHHS Programme to take account of these concerns where practicable, avoid competing for resource and prioritisation. This is critically important for large infrastructure projects where the cost and potential expense of variations is substantial. Regardless of whether the REC is chosen to be the governance vehicle for the EDA, RECCo would be happy to play a greater role in the MHHS Programme and contribute to raising awareness of and seeking fuller engagement from all market participants that will have a stake in its effective and timely delivery.
Value for money, 'whole-of-system' efficiency, and cost effectiveness; including synergy with other services (e.g. in terms of costs, operations or governance)	RECCo already has a proven track record of delivering services across the energy industry that provide good value for money for consumers. We do this through open procurement using proven approaches to deliver cost effective services. The RECCo remit spans the entire retail domain and is thus best placed to take a whole of system approach, enabling us to leverage common services and capabilities such as the EDA as future requirements for data exchange and data integrate

	evolve and hence avoid duplication and unnecessary systemic costs. For example, avoiding future duplication across vectors such as electricity, gas, hydrogen, heat as well as other 'energy as a service' areas. RECCo, through services such as the CSS, is already starting to oversee EDA-based solutions and so is best placed to drive efficiency across the lifecycle – procurement, operations, innovation, change and governance – by minimising the number and diversity of central service organisations that will be required to coordinate change and deliver common services. Future demand-side response is essentially reciprocal retailing, with individuals both producing and consuming energy as required by their own needs and/or in response to price signals, i.e. selling the stored power from an Electric Vehicle or microgeneration back into system if not needed or it is attractively priced at that point in time. These consumer – or *prosumer* – interactions are naturally closer to the REC governed retail arrangements than those of traditional and larger scale wholesale arrangements. This also aligns with the concept of energy as a service rather than commodity product.
Security and privacy	RECCo fully understands the legal and societal obligations it has, in principle and practice, regarding managing and protecting data and, in particular, personal data, both from a physical and digital perspective. RECCo already has the required governance and controls in place to fully meet its obligations effectively and efficiently. This is already demonstrated through our provision of electricity and gas data enquiry services, EMAR, and our work with the switching service. RECCo has recognised that custodianship of data is an increasingly important part of its core, not least if it wants to delivery on its strategic aim of acting as a catalyst for open-data principles across the industry. Whilst it will continue to be supported by its existing teams and third-party security subject matter experts, RECCo will shortly recruit a dedicated Data Protection Officer, who will form part of the newly created Data, Technology, and Transformation team within RECCo. RECCo has a proven track record of procuring and managing service providers and systems that include sensitive data, with the necessary contractual

	obligations and remedies for data management and data controller/processor roles, requirements and processes/controls. RECCo has a retail-wide remit. This puts us in a unique position to be able to take and end-to-end view of the security of data from the person to the meter to the network to the retailer. This reduces the risk of security issues which often occur in the interfaces between different parties.