

Design Advisory Board meeting 4



12 June 2018

1. Welcome & meeting overview – *10 minutes*
2. Business case – commercial drivers for MHHS – *45 minutes*
3. Update on TOM design work – *35 minutes*
4. Refresher on skeleton TOMs – *40 minutes*

Lunch – *30 minutes*

5. BEIS presentation on FIT policy & export settlement – *1 hour 15 minutes*
6. Stakeholder feedback to skeleton TOMs – *45 minutes*

Break – *10 minutes*

7. Stakeholder feedback to skeleton TOM – *50 minutes*
8. Close of meeting – *5 to 10 minutes*

What we want to get out the DAB meeting:

- DAB views on commercial drivers to support the business case assessment
- Update the DAB on the progress of the TOM design work, and the forward work plan for stage 2
- Go through stakeholder responses to skeleton TOM consultation and seek DAB responses on implications for stage 2 design work

Commercial Drivers for Market-wide Half Hourly Settlement

June 2018

What we're seeking from you: views on why market participants would (or would not) want to progress market-wide HHS (MHHS) (code changes, systems implementation, transitioning customers to HHS)

Context

- Following on from publishing the Strategic Outline Case (SOC) (Feb 2018), we aim to publish the Outline Business Case (OBC) - **second of three iterations** of the Business Case – in mid-2018
- The Commercial Case (one of the five elements of the Business Case) aims to identify the commercial drivers for proceeding with MHHS

We are following HM Treasury best practice guidance to develop a Business Case based on the 5 Case Model methodology. This will include an economic impact assessment (the Economic Case).

Feb 2018

Strategic Outline
Case

- Sets out the strategic case for change
- An initial outline of the scope of economic costs and benefits
- Initial thoughts on the other three cases

Mid-2018

Outline Business
Case

- Economic assessment of high level options for Settlement Reform, outlining potential range of costs and benefits
- Developed thinking on commercial, financial and management cases

2nd half 2019

Full Business
Case

- Detailed costing of specific options
- Relies on Target Operating Model work and policy decisions
- Set out plans to manage and deliver reform and the transition to market-wide HHS

See:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf

Outline Business Case: content

Strategic Case

- A more in depth examination of the strategic interactions with other projects, building on the work in the Strategic Outline Case
- Supplier Hub, Access and Forward Looking Charging, Switching, Smart, FRR, smart appliances and electric vehicles

Economic Case

- Estimate (using BEIS DDM model) of potential system benefits from HHS load shifting
- Qualitative discussion of the scale & materiality of costs resulting from market-wide HHS
- Further evidence (mostly qualitative at this stage) on direct benefits of HHS e.g. shortening settlement timeframes, better data quality etc
- Distributional effects, impact on vulnerable consumers and small businesses

Commercial Case

- Discussion of the commercial drivers on industry to develop and deliver market-wide HHS, and their incentives to aid/hinder the process
- Synthesises evidence and views from other projects (P272, Nexus, Smart) and stakeholders (DWG and DAB)

Financial Case

- Brief update on the resource implications for Ofgem and industry of developing and delivering market-wide HHS

Management Case

- Consideration of the potential governance arrangements for the modification and implementation stages (under the legislative powers from the Smart Meters Act)
- Updated phase plan and key milestones
- Output from Assurance Review

Commercial drivers: some initial thinking

What incentives would make market participants progress HHS when they may not otherwise wish to do so?

- **‘Push’ factors**



Ofgem approves a preferred TOM design and requires industry to ‘cooperate’ to deliver change in a timely, cost effective way

Competition from new market entrants forces existing players to react

Ongoing settlement costs/inaccuracies are unsustainable, embed inefficiencies

Technological change (‘smart’ products/services) force an upgrade to settlement architecture

- **‘Pull’ factors**



Innovation (‘smart’ products/services) provides existing market players with opportunities, competing with new entrants

New settlement arrangements offer long-term cost savings/efficiencies - more accurate settlement once HHS implemented

Traditional suppliers shift towards ‘energy service provider’ model – ‘adapting to survive’

Potential disincentives to change

Existing suppliers could keep consumers disengaged and new entrants out through existing settlement processes

Procurement costs of new systems appear significant/prohibitive

Volume of other market changes, eg smart meter rollout, switching reform, continuation of price caps - a 'wait and see' approach

Delivering several major projects at the same/similar times – lack of resource to implement settlement reform

Questions and comments?

**Anything we've missed and/or
should include?**

P272/elective HHS reflections?

Update on TOM design work

June 2018

- Since the DAB meeting in March
 - Ofgem approved the skeleton TOMs for stakeholder consultation and detailed design
 - Skeleton TOM consultation published on BSC website in late April
 - Ofgem review of DWG membership to ensure it is appropriate for stage two. Decision to appoint James Murphy (Stark) to the Design Working Group
 - More broadly, working paper published on Ofgem thinking to date on supplier agent functions under half-hourly settlement

1. Update on action items from previous DAB meeting
2. TOM design work next steps:
 - Stage 2 forward work plan
 - Future DAB meeting dates & interaction with broader SCR
3. Smart Meters Act

- Ofgem to create risk log of dependencies
- BEIS to present on export settlement
- ELEXON to circulate work on export spill
- Ofgem to clarify what data is being extracted from the meter for the purposes of settlement

- Design work moves into stage 2 where detailed of the skeleton TOM options will be undertaken
 - Aim is to identify a preferred TOM in January 2019
- DAB and DWG to consider feedback from stakeholder consultation to feed into stage 2
- ELEXON have revised forward work plan for stage 2

Market-wide Half Hourly Settlement - High Level Timetable													
	2018							2019					
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
DWG Meetings													
DWG Meeting 8	13												
DWG Meeting 9			22										
DWG Meeting 10				18									
DWG Meeting 11						13							
DWG Meeting 12								15					
DWG Meeting 13												TBC	
DWG Meeting 14													TBC
DWG Workgroup Meeting 1	11												
DWG Workgroups develop Service Requirements													
ELEXON finalise the Report for Stage 2													
ELEXON provides Report for Stage 2 to Ofgem													
DAB Meetings													
DAB Meeting 4	12												
DAB Meeting 5				4 or 6									
DAB Meeting 6							11 or 13						
DAB Meeting 7								29 or 31					
Consultations													
ELEXON re-draft/refine viable TOMs													
ELEXON Activities													
Consultation on Transitional Approach													
ELEXON draft consultation on the transitional approach and undertake Settlement Impact Assessment (IA)													
4 week consultation on Transitional Approach													
ELEXON summarise consultation responses for the DWG and draft final report for DWG Stage 2													

Proposed future DAB meeting dates

- DAB meeting first week of September (4th or 6th)
 - Update on DWG design work and seek DAB views/guidance
- DAB meeting last week of November or early December
 - Update on DWG design work and, if available, seek DAB views on how to incorporate minded-to or final policy decisions into TOM design
- DAB meeting end of January (29th or 31st)
 - DWG to present on preferred TOM and alternatives to DAB. Evaluation of the preferred TOM against design principles. Also seek preliminary views on transitional approaches

- Preferred TOM in January 2019 is dependent on Ofgem finalising policy decisions on access to half-hourly data for settlement purposes and whether or not to centralise supplier agent functions
- Preferred TOM will be used to undertake a request for information (RFI) in February 2019 to stakeholders about costs of moving to market-wide HHS. This information feed into the draft impact assessment. The RFI will also need to include high level views on transitional approaches for stakeholders to respond to
- DWG to prepare final report on preferred TOM and transitional approach. To be delivered in June 2019 and will form part of the Full Business Case.
- Final TOM will also need to consider linkages to other projects – switching, targeted charging review, access, future supply market arrangements

- Approved by Parliament and received Royal Assent on 23 May 2018
- Gives Ofgem powers to make ‘any modification necessary or desirable for the purposes of enabling or requiring half-hourly electricity imbalance to be calculated using information about customers’ actual consumption of electricity on a half-hourly basis’ (code changes)
- Additionally, licence modifications made for the same purposes may be implemented earlier than the normal 56 day ‘fallow’ period
- However, the powers only come into force ‘on such day as the Secretary of State may by regulations appoint’ and last for 5 years

Disclaimer: this is not intended to be legal advice and should not be treated as such

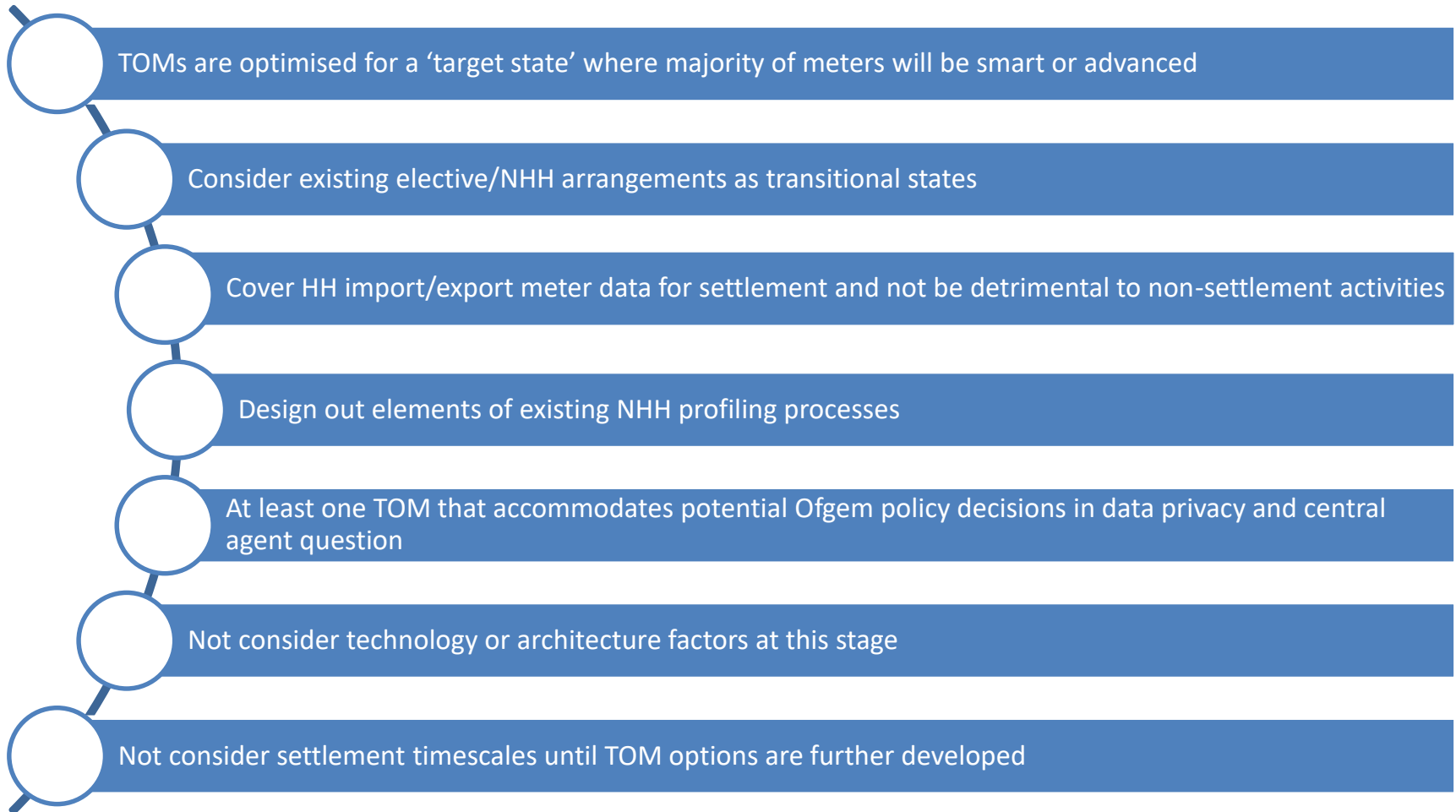
- The powers give Ofgem the ability to introduce changes over the course of the five years to introduce market-wide HHS from the date they come into force
 - This gives us more flexibility compared to our powers to implement changes under an SCR
- We do not intend to use powers until a decision has been made on whether or not to proceed with market-wide HHS in the second half of 2019
- As such, Ofgem is currently still using its SCR powers to proceed with settlement reform

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Overview of skeleton TOMs

June 2018

- DWG agreed to developing skeleton TOMs via a ‘use case’ model approach covering five ‘market segments’ in settlement
- ‘Market segments’ broadly divided along the lines of metering type and granularity of metering data available for settlement. They are:
 1. smart meters with settlement period (half-hourly) data available
 2. smart meters with only register read data available
 3. non-smart meters with register readings
 4. traditional advanced meters with settlement period data available
 5. unmetered supplies
- DWG also agreed on baseline design principles to help drive design and development of skeleton TOMs

- 
- TOMs are optimised for a 'target state' where majority of meters will be smart or advanced
 - Consider existing elective/NHH arrangements as transitional states
 - Cover HH import/export meter data for settlement and not be detrimental to non-settlement activities
 - Design out elements of existing NHH profiling processes
 - At least one TOM that accommodates potential Ofgem policy decisions in data privacy and central agent question
 - Not consider technology or architecture factors at this stage
 - Not consider settlement timescales until TOM options are further developed

- Skeleton TOMs set out the services required for settlement across the 5 market segments and how those services can be group
- Service groupings focused on retrieval, processing and aggregation activities as those were identified as key activities
- Other services needed for settlement where:
 - Metering services
 - **Registration service**
 - Unmetered supplies Service
 - Load shaping service
 - **Distribution losses service**

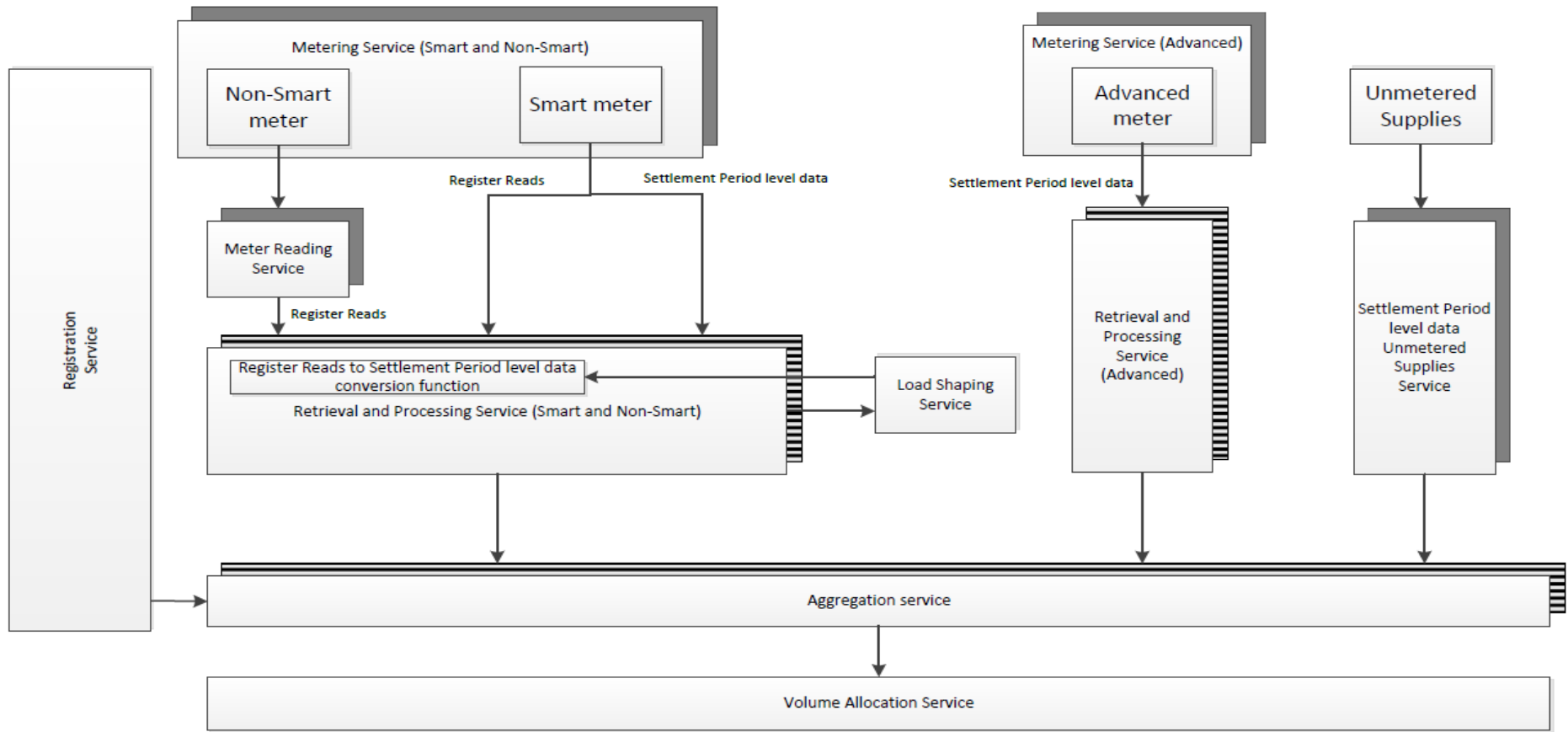
- DWG has developed 5 skeleton TOMs (A-E)
- The skeleton TOMs differ based on how retrieval, processing and aggregation services are grouped across the market segments
- Key features common to all TOMs:
 - The conversion of register read data into HH data moves from volume allocation into data processing. There is a new load shaping service which will be responsible for load shapes using market HH data. This means all data being entered into settlement is HH data - eliminating distinction between NHH and HH settlement processes
 - The role of the DCC being the 'pipe' for all smart meter data has a major impact on the design of the skeleton TOMs. Differs from advanced meter segment where both retrieval and processing need access to the meter
 - Only TOM E is dependent on Ofgem making a policy decision to centralise (other TOM's have both options of supplier or market services)
 - No assumption of who does a service or service detail – to be explored in stage 2

- Key outputs from each service
 - Retrieval output: HH or register read meter data extracted. For smart this done via the DCC comms and for advanced this is done by the retrieval service over a mobile network/other comms
 - May also involve pseudonymisation/anonymisation if that access to data option is selected
 - Processing output: HH or register read data is checked and validated. If there are errors or the dataset is incorrect it is addressed at this stage. Register read data is turned into HH data based using the usage shapes created by the load shaping service
 - Aggregation output: actual or created HH data is added up and allocated to the responsible supplier/future service provider (checked against data from the registration service) for volume allocation service to calculate Balancing Mechanism Unit volumes

TOM A and D

MARKET-WIDE AGGREGATION

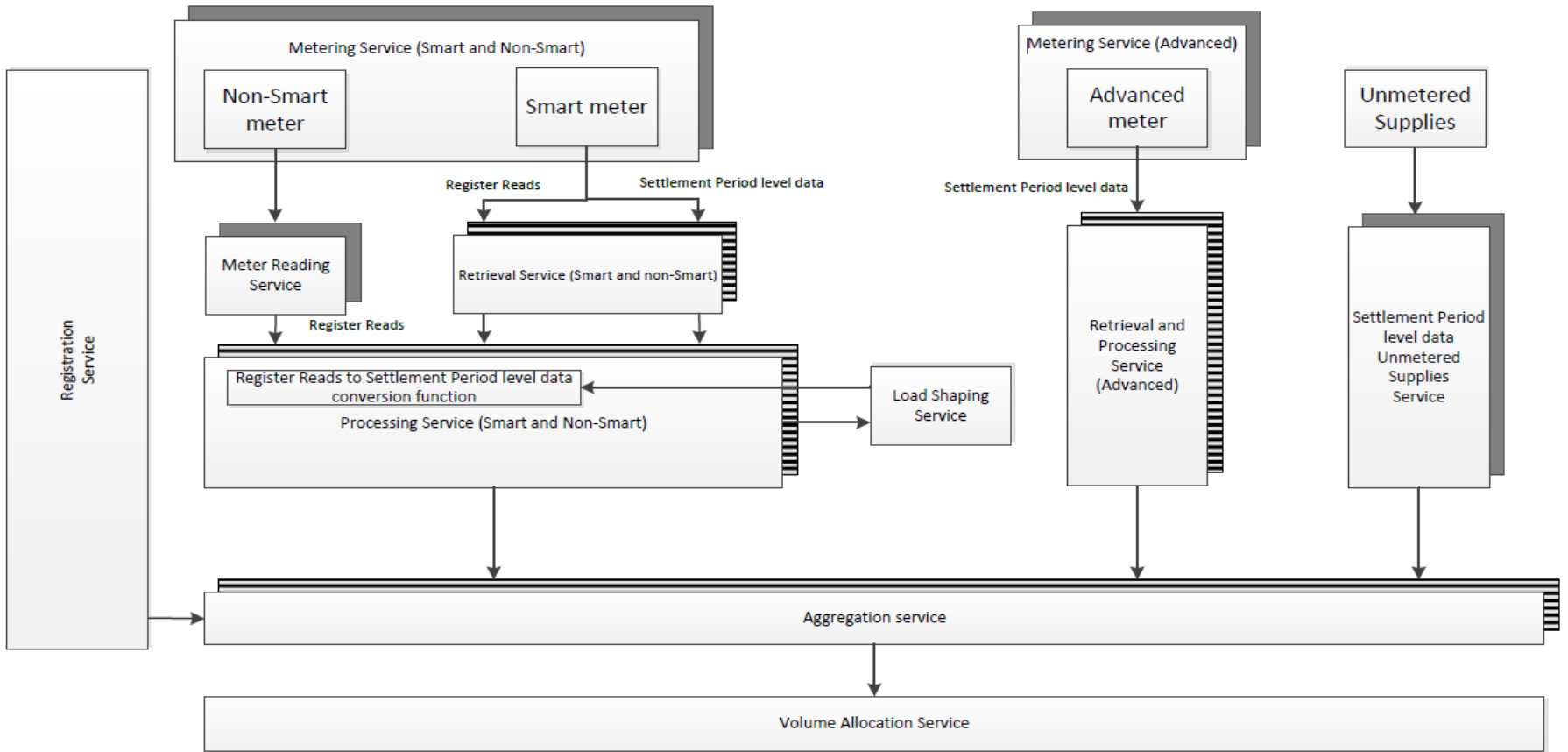
TOM A: Combined Retrieval and Processing with Separate Aggregation



Key to shadows

- Competitively procured
- Competitively procured or single/multiple monopolies
- Single or multiple monopolies

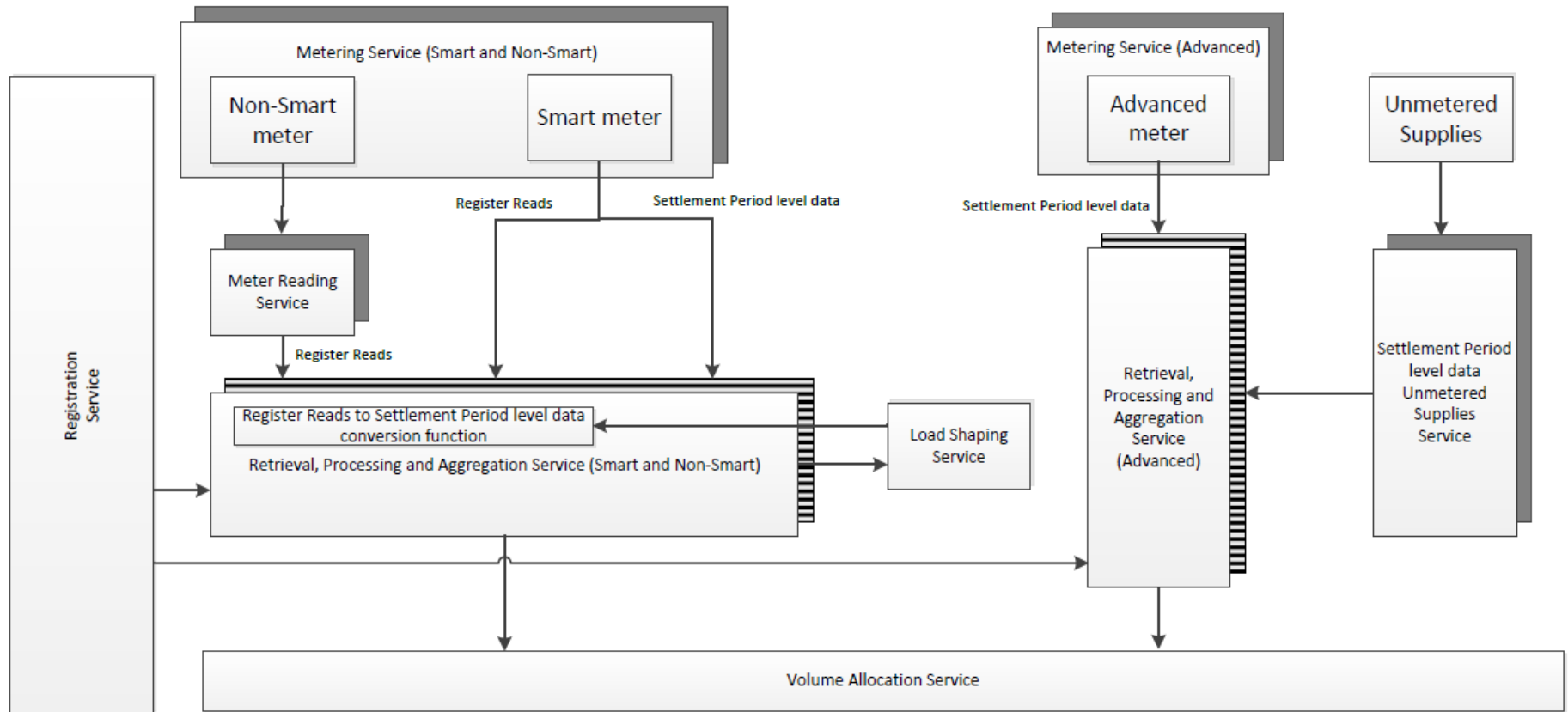
TOM D: Separate Services






TOM C and A

COMBINED PROCESSING AND AGGREGATION SPLIT BY SMART AND ADVANCED SEGMENTS

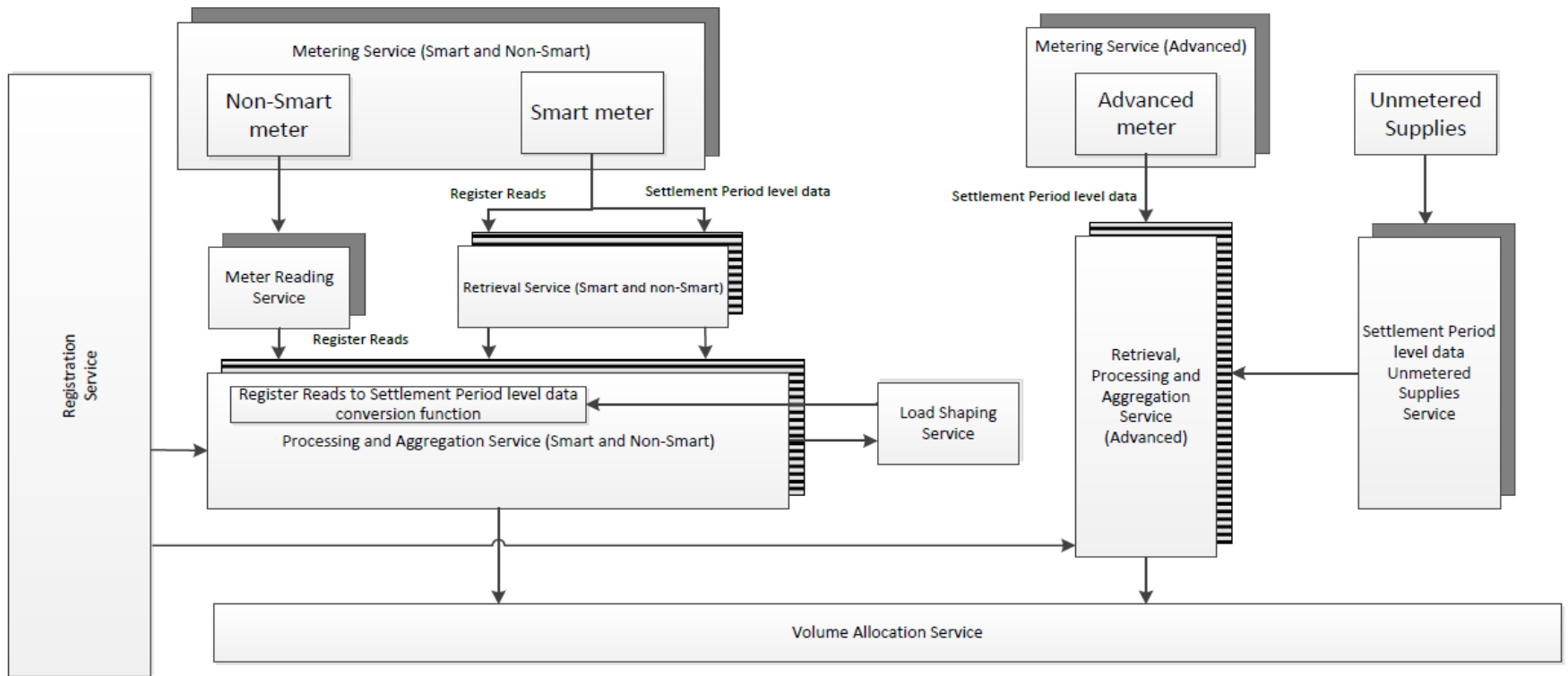
TOM C: Single End-to-End service covering Retrieval through to Aggregation



Key to shadows

-  Competitively procured
-  Competitively procured or single/multiple monopolies
-  Single or multiple monopolies

TOM B: Separate Retrieval with Combined Processing and Aggregation



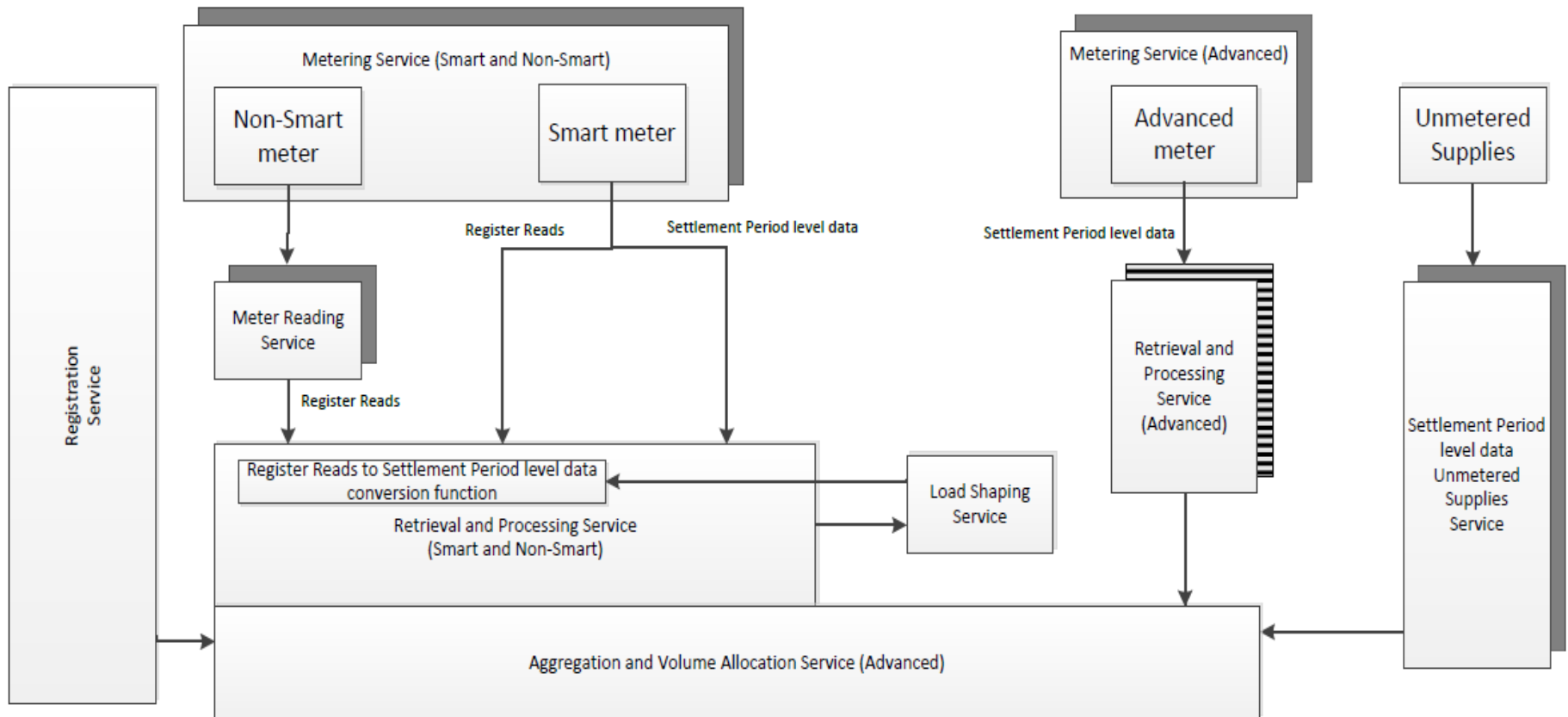
Key to shadows

- Competitively procured
- Competitively procured or single/multiple monopolies
- No shadow: Single or multiple monopolies

TOM E

CENTRALISED SERVICE MODEL

TOM E: Single End-to-End Service covering Retrieval through to Volume Allocation



Key to shadows

- Competitively procured
- Competitively procured or single/multiple monopolies
- No shadow: Single or multiple monopolies



■ Design Advisory Board

■ 12 June 2018

■ Kevin Spencer

19 Responses

No.	Company Name	Role of Parties/ non-Parties represented
1.	E.ON Energy Solutions	Supplier, NHH & HH – DC,DA, MOA
2.	Utilita Energy	Supplier
3.	Stark	Energy Data and Services
4.	AIMDA	Association
5.	Opus Energy & Haven Power - part of Drax Group Plc (<i>joint response</i>)	Non-domestic Suppliers
6.	IMServ	Supplier Agent
7.	ElectraLink	Central Industry Body
8.	ENGIE Power Limited	Supplier
9.	Npower Ltd	Large Supplier, Supplier Agent
10.	EDF Energy	Supplier
11.	Energy Local CIC	Community Energy Organisation
12.	Salient Systems Ltd	Automated Software Product System Solutions Provider – NHHDC/ NHHDR/ NHHMO/ HHDC/ HHDA/ HHMO
13.	Siemens	Supplier Agent – HHDA, HHDC, HHMOA, NHHDA, NHHDC, NHHMOA
14.	TMA Data Management Ltd	Supplier Agent and Shared Services provider
15.	SmartestEnergy	Supplier
16.	SSE (<i>late response</i>)	Supplier
17.	DCC (<i>late response – received in letter form, see Appendix 2</i>)	Central Industry Body
18.	ScottishPower Energy Retail Ltd & Dataserve Ltd (<i>late response</i>)	Supplier and HH Agent
19.	British Gas (<i>late response</i>)	Supplier



Key Themes by Question

- Summary

Key Themes by Question (1)

Question 1 Are there any Settlement processes or services not identified that should be included as part of the HHS Meter to Bank process?			
Number	Response	Rationale	Market Role
13	No/Neutral	At this stage everything covered for Meter to Bank process	Various
1	Potentially	Unsure why the CVA market is being excluded from this process. The agent of last resort process would need to be reviewed.	Supplier with Agents
1	Yes	We believe the below points will need to be addressed either within stage 1 or early stage 2: <ul style="list-style-type: none"> supplier billing interaction, theft, smart sites that have communication issues. Re-use of profile fields, new market domain data will be required, GCF allocation. 	Supplier with Agent
1	Offer for consideration 2 new future HHS supporting services and the promotion of a particular and related process subset of each of the proposed Processing and Aggregation Services to produce a pertinent and distinct service in its own right.	New Services: <ol style="list-style-type: none"> ECVN/MRVN Facilitator Service New Business/Market Model validation/testing/monitoring service Promoted Service: <p>Consumption Data Estimation Service</p>	Agent Software Provider
1	Clarification required	Could the DWG clarify that the Disconnection event and EMR information are included in the "other non-settlement services" in the Data Aggregation Services list?	Supplier Agent
1	No Comment		Community Energy

Key Themes by Question (2)

Question 2			
Are there any TOMs or aspects of TOM design that would better facilitate the most efficient delivery of the HHS Meter to Bank process?			
Number	Response	Rationale	Market Role
2	TOM C and E	Data transfer efficiency - See also paper in Appendix 1	Supplier with Agents, Smaller Supplier
2	TOM E	Should enable most efficient delivery (competition concerns though), central Settlement aggregation optimal.	Smaller Suppliers
1	TOMs A and C	Better than B & D as Retrieval and Processing combined	Big Supplier
2	More detail required		Big Supplier, Smaller Supplier
1	Little to separate at this stage	Efficiency in descending order B,D,C A and E.	Supplier Agent
3	TOM D	Most efficient as no grouping, maximises participation/ competition	Central Industry Body, Supplier Agent, Community Energy
4	TOMs B and D (dups?)	Better than TOMs A and C as maximises competition	Supplier Agents
1	Tom C	Creates single new efficient smart agent role	Big Supplier
1	Yes	We should not be carrying forward the complexities of the pre-MHHS era. The current programme should consider wide-scale standardisation of process and data sources for recorded consumption, and avoiding the multiple hand-offs and points of failure arising from the present multiple agent model.	Big Supplier
1	Neutral	We would suggest that Elexon and OFGEM continue to work in close partnership to ensure settlement reform is aligned with the Future Supply Market Arrangements work.	Big Supplier

Key Themes by Question (3)

Question 3			
Are there any TOMs or aspects of TOM design that would better facilitate the most accurate allocation of energy?			
Number	Response	Rationale	Market Role
2	TOMs C and E	More fluid processing...end to end Services	Big Supplier with Agents, Smaller Supplier
2	Too early	Need to understand detailed processes	Smaller Supplier, Big Supplier
4 (duplicates?)	Competitive models	Distinguish themselves on Settlement performance and data quality	Supplier Agents
1	Potentially TOMs B or C	Butneed to get decisions about access to data and Supplier agent functions	Smaller Supplier
3	All the same	No TOM more accurate than any other	Supplier Agents
1	All the same	But TOMs B and D have separate retrieval role which could impact accuracy	Big Supplier
1	Combined services are best	Where Retrieval and Processing combined.....dependency on Load Shaping Service	Big Supplier
1	TOM D	Multiple small players are more innovative.	Community Energy
1	TOMs where Processing and Aggregation combinedbut not centralised.	Software Provider
1	Dependent on access to SP level data	Dependency on Ofgem Policy decision	Big Supplier
1	Yes (all)	High levels of actual reads in settlement as provided for by all TOMs.	Big Supplier

Key Themes by Question (4)

Question 4			
Are there any TOMs or aspects of TOM design that would be less resilient? e.g. a failure in a Service to be delivered			
Number	Response	Rationale	Market Role
1	Not specifically	Inherent risk of central provider.....but current levels of validation could be reduced by central provider. Learn from project nexus	Big Supplier with Agent
9	Caution on centralised monopoly (TOM E)	Caution with TOM E and learn from DCC costs, single pint of failure	Various
1	No	Need to identify resilience issues in Stage 2.	Central Industry Body
2	TOM D least resilient	Separating Services increases risk of failed or inaccurate data transfer.	Smaller Suppliers
1	TOMs A, D and E less resilient	Risk of single centralised market-wide aggregation with data in one place.	Big Supplier
1	Bundled services	..are less resilient	Software provider
1	TOMs B and D	Due to separate Retrieval service	Big Supplier
2	Yes	<p>It does not appear that there would be advantages in reducing the number of hand-offs by introducing a more centralised model (option E) as there is a counter view that a single provider increases the material impact of any issues that may arise and could potentially reduce transparency of operations.</p> <p>In relation to aspects of the current market arrangements there are multiple failure points. DWG should to analyse these and design them out of any enduring MHHS arrangements.</p>	Big Suppliers

Key Themes by Question (5)

Question 5 Are there any TOMs or aspects of TOM design that would deliver the best result for the end consumer?			
Number	Response	Rationale	Market Role
1	The TOM which provides....	Least cost, most timely, accurate and least impact end consumer.	Big Supplier with Agent
1	Centralising trade offs..	More efficient and lower costs v customer choice.	Smaller Supplier
5	Competitive models (some dups?)	Consumer choice of agents, supports innovation and independence. No change at all to HH arrangements for advanced would be best.	Supplier Agents
3	All TOMs	Appear to give optionality for improving data/ lowering costs From a settlement perspective, all of the TOMs have the potential to facilitate the HHS meter to bank process and therefore be of similar benefit to the end consumer All TOMs would seem to achieve this outcome.	Smaller Supplier Big Suppliers
2	TOM D	Would promote best outcome for the end consumer	Community Energy and Supplier Agent
1	TOM C and E	End to end Services are most efficient for Settlement and provide best result for end consumer.	Smaller Supplier
1	TOM C	Centralised version reduce implementation costs, no data transfer between agents no need to change agents on CoS.	Big Supplier with Agents
1	TOM with Retrieval and processing are competitive	Consumers better served by Supplier aligned Services, retail offerings and innovative offers.	Software Provider
1	TOM E	Suppliers are not negotiating separately with Agents, no adverse effect on competition (<i>in supply</i>).	Smaller Supplier
1	Dependent on the policy decision for Settlement Period Level data access and use.	More limited the model chosen, the more there is potential to limit the delivery of the best results for the end consumer. i.e. things like reward tariffs or interruptible regimes, or clearer profiling, which can stem from accurate, clear, granular data	Big Supplier
1	Yes	Innovation in the Domestic market should be focussed on developing new services not on competitive tendering for existing 'commodity' transactions where little value is added by service differentiation. For Smart and non-Smart (but not Advanced) meters this should mean that commodity transactions are simple and low-cost, but that add-on services can be developed and delivered by multiple parties.	Big Supplier

Key Themes by Question (6)

Question 6			
Are there any innovations in technologies or energy services not considered in this document which should be accommodated by the TOMs?			
Number	Response	Rationale	Market Role
1	Customer Agents	Currently customers have an opportunity to select their own agents as service providers for DC / DA. There are still consumers who wish to take this service through traditional HH metering and it needs to ensure consumers are not penalised through site specific DUoS/TNUoS charges.	Big Supplier with Agents
5	No	The TOM currently accommodates for key areas of innovation within technologies and energy services.	Various
3	Yes	There is little consideration of technologies such as EV Charging and Heat Networks, which are both nationally transformative, energy services currently being provided to the micro-business sector via Advanced metering.	Supplier Agents
1	Partial yes.	Potentially if Smart CT meters become available it could cut across metering types and processes, which could add complications.	Big Supplier with Agents
1	Local balancing	Half hourly settlement increases the potential for local balancing, which improves network resilience and efficiency.	Community Energy
1	Yes	A good census of innovations are presented at the consultation document the nature of innovation is that it if encouraged it will persist and further new flexibility options will develop.	Software Provider
1	Yes	Innovations that are currently occurring in the area of Peer-to-Peer (P2P) energy trading, community or district energy and heat schemes and the increase in the use of Electric Vehicles (EV), all of which could 'spill' energy onto the network at various points are nationally transformative and therefore must be taken into consideration in the development of the TOMs. Other innovations within the energy industry such as blockchain (P2P) are already being considered and other innovations will come along.	Supplier Agent
1	No comment		Supplier Agent
1	P332	This is admittedly a secondary issue, but if, as we believe, the AMR arrangements should be left largely intact, then the P332 proposal is still valid.	Smaller Supplier
1	Difficult at this stage to answer.	Without the awaited policy decisions associated with MHHS which will further inform the TOM's, it is hard to know which variants of each TOM might better facilitate innovation either in energy services or technology.	Big Supplier
2	Blockchain	Innovative proposals such as blockchain have the may mean that settlement process may need to be reviewed to be accommodated. Blockchain technology may not be mature enough to build the current reform processes around, but any reforms should be mindful of the potential of blockchain to play a role in future settlement reform.	Big Suppliers

Key Themes by Question (7)

Question 7 Are there any specific aspects of TOM design that would present a barrier to new market entrants, technologies or innovations?			
Number	Response	Rationale	Market Role
1	Dependent on the TOM chosen	Depending on the selected TOM, consideration needs to be applied to single service providers and how regularly these would be available for tender. Using Single Service Providers (SSP) could result in increased or decreased cost to implement upgrades or system changes. TOM E could stop agents from being able to enter the market as easily however it could benefit suppliers commercially. TOM D creates the need to have commercial arrangements which could benefit new market entrants.	Big Supplier with Agent
2	a TOM based on a centralised monopoly service	a TOM based on a centralised monopoly service provider being procured has a number of risks, including acting as a potential barrier for new market entrants. Contrary to this, a more centralised service may reduce barriers to new suppliers by only having to deal with one central service.	
6	Centralised TOMs	Designs based on monopolisation, such as TOM E, will be an absolute barrier to new market entrants in energy services and will stifle innovation.	Various
7	No	We do not know of any aspects of the TOM design that would present a barrier to new entrants; however, we do believe that the TOMs should be flexible enough to accommodate new and emerging business models, innovations and actors that may wish to enter the market. <ul style="list-style-type: none"> If a centralised smart data collection / data aggregation services is developed, there may be possible benefit from accepting (at a cost) HH data from a variety of sources (data retrievers), which would allow the market to develop over time. The BSC (P362) sandbox process if approved is may be a less disruptive option for new innovation. <p>We can see the argument that Option A gives the flexibility for peer-to-peer arrangements. Based on the evidence reviewed, none of the TOMs proposed present a barrier to new market entrants, technologies or innovations and would suggest that the consultation responses to the "ELEXON White Paper - Enabling customers to buy power from multiple providers" is incorporated into how settlement reform develops.</p>	Various
1	The separate services proposed by TOM D	In a competitively procured scenario, splitting all the services out may result in new entrants having to contract with multiple parties. This would make market entrance more complex.	Smaller Supplier
1	No Comment		

Key Themes by Question (8, 1)

Question 8			
Do you have a preference for any of the TOMs and why?			
Number	Response	Rationale	Market Role
1	TOM E followed closely by TOM C.	Both C and E help to streamline the market and reduce the number of hand off points which should bring with it an efficiency in processing. TOM E would also allow for a greater level of centralised information which could allow innovation to evolve and would help reporting and identifying any issues at a granular level. However as an agent TOMs C and D still allow the consumer flexibility to procure their own services and protects consumers with a single point of failure.	Big Supplier with Agent
2	No	Too early	Smaller Supplier, Big Suppliers
2	TOM C	Our preferred TOM is C, with amendments This would be least disruptive to traditional HH roles, but and allow a new centralised smart role to develop. If the Ofgem policy decision is to centralise aggregation services, our preference would be for TOM A. We prefer the end to end service models.	Big Supplier, Smaller Supplier
1	Potentially TOM B or TOM C	We have an initial view, we feel that until there is clearer direction on decisions around access to data and supplier agent functions, it is again difficult to provide a definitive answer at this stage.	Smaller Supplier
4	Competitive TOMs	We have a preference for any TOM that preserves and maximises competition, but all TOMs could be improved further by leaving the advanced metering segment alone and continuing with it as is with its current operating model. We see no rationale for change in this large area of the market.	Supplier Agent
4	TOM D	<p>Our preferred TOM is TOM D. TOM D will allow the market to group the services as appropriate; therefore, this will allow the market actors to decide the most effective model to provide settlement information to ELEXON for them.</p> <p>Maintaining separate services for each process from meter to bank should increase the number of organisations operating in the market. It also increases the likelihood that these will be nimble organisations that are willing to engage with community energy organisations and be open to new ideas about how things could be done better. Our experience engaging with industry participants to date, is that we have had far more success and openness to trialling innovative ideas from smaller players.</p> <p>TOM D achieves the key improvements to proposed HHS regime at least as effectively as all other TOM options – the generation of interval data from all MS segments at Processing service and prior to Aggregation and the appropriate positioning of Profiling service.</p> <p>We support TOM D as it keeps all services as standalone services. We support TOM D when all service providers are fully competing.</p>	Software Supplier, Supplier Agents, Community Energy

Key Themes by Question (8, 2)

1	TOM A	<p>We currently have a preference for TOM A because:</p> <ul style="list-style-type: none"> We believe that it makes sense to combine the retrieval and processing services. TOM A provides Suppliers with the flexibility to implement the arrangements in a number of different ways which serve their needs, using both internal and external services. TOM A enables the introduction of a centralised aggregation service, which we believe is required to support the implementation of new technologies and business models. 	Big Supplier
1	TOM B or TOM D	<p>With so many different permutations of each TOM and their similarity, plus the uncertainty around Ofgem's Policy Decision on whether to centralise supplier agent functions, it is very difficult to give a preference., Our preference would be for a model that preserves competition in the Advanced metering market and</p> <p>TOM B</p> <ul style="list-style-type: none"> Encourages competition and innovation Recognises the difference between the C+I market and the Domestic from a retrieval and processing perspective Maximises economies of scope from existing service providers Least development effort to improve speed to market and facilitate new entrants <p>TOM D – in addition to the above</p> <ul style="list-style-type: none"> Opportunities from economies of scale in aggregation <p>TOMs B & D should cause the minimum impact on the existing C+I AMR market, there being minimal change to the existing Settlement Process for HH AMR meters, which although low in numbers account for approximately 50% of the total energy that is Settled. Therefore it can be argued that the existing processes for HH AMR should be left as is because it minimises the risk to Settlement as identified in Risk 01.</p>	Supplier Agent
1	TOM E	<p>We like the idea of centralisation for Smart aspect of TOM E coupled with the separation of AMR, with the two coming together at Volume Allocation. However, having separate data aggregation for AMR is not a die-in-the-ditch issue for us; centralised aggregation would mean some contractual changes for customers who pay for a joint DC/DA service directly to their Agent. However, the advantages of centralised DA need to be demonstrably greater than the inconvenience of having to make changes to data aggregators' and customers' contracts.</p>	Smaller Supplier
1	TOM's A and C.	<p>These are the most sensible collection of service functions, deliver HH settlements and reduce hand offs. we believe that TOMs A and C will minimise/limit the list of potential errors</p>	Big Supplier

Key Themes by Question (9)

Question 9 Do you agree with the DWG's initial assessment against the Design Principles? Are there any points not identified by the DWG?			
Number	Response	Rationale	Market Role
11	Yes	We agree with the initial assessments given by the DWG however only under Stage 2 will each TOM be in a better position to be fully assessed against Ofgem's Design Principles. We acknowledge the DWG's findings and have not identified any further observations to share to date.	Various
3	Partly	Assessment of the TOMS against half of the Design Principles (1, 2, 4 and 8) is stated to occur as part of Stage 2 so we cannot comment. The assessment that has been carried out against the remaining Design Principles (3, 5, 6, 7 & 9) appears to be mostly satisfactory. However, in Design Principle 2, the assessment offers no reassurance that the principle of "avoiding the potential to stifle innovation and competition" in Retrieval and Processing has been considered and the statement that a simple and cost-effective estimation process would lower barriers to entry is not explained. Furthermore, Design Principle 9 is not addressed fully, with the assessment suggesting that there will be little interaction between new technologies and the Settlement system, which could be short-sighted.	Supplier Agents
1	No and Yes	We consider the DWG's assessment of the TOMs against the Design Principles to be only partly formed and lacking rigor. In part that is because the Design Principles and Criteria lack specificity, but also because at various points opinions are stated as fact, without evidence or substantiation. We conclude that at this time the process of evaluating the merits of the TOMs against clear, transparent design criteria is flawed and potentially misleading.	Supplier Agent
2	No comment	NA	Software Provider, Community Energy
1	The load shaping service does not meet the "simple and cost effective" criteria. We do not agree that TOM E supports innovation and Aggregation for Smart Meters, it also creates a single point	We do not support the principle that the estimation requires a Load Shaping service provider. We would like to explore other means of keeping estimating non smart meters as well as estimating missing data for Smart Meters. Load shaping or profiling, no matter how it is done is prone to inaccuracy and might not provide any more accurate profile than using the profile of a similar site. We would be fully supportive of a process where Load Shaping, as an ongoing task, no longer exists. We do not agree that TOM E supports innovation with a central service provider for data retrieval, processing and Aggregation for Smart Meters, it also creates a single point of failure which is by definition bad design.	Supplier Agent

Key Themes by Question (10, 1)

Question 10 Do you agree with the DWG's initial evaluation against the evaluation criteria?			
Number	Response	Rationale	Market Role
5	Yes	NA	Various
1	Partly	Although we are largely supportive of the DWG's initial review against the evaluation criteria, the TOMs have assumed all SMETS1 meters will be enrolled and adopted under the DCC or replaced with SMETS2 meters to enable a single smart meter retrieval service which we still do not know to be the case. Therefore, we would query this assumption and the allocation of the 'strongly supports' status of all TOMs for meter types coverage.	Smaller Supplier
2	No	We find the evaluation criteria difficult to understand and are not convinced of the value in trying to evaluate the TOMs as a whole rather than individually. Furthermore, the interaction between the two sets of criteria (Design Principles and Evaluation Criteria) is unclear and could potentially be contradictory	Supplier Agents
1	Too early	Evaluation is currently based on a high-level view of TOM options. Some criteria will require further evaluation following progress of Stage 2 design work.	Smaller Supplier
2	No	It is not clear how the DWG's secondary set of evaluation criteria link to Ofgem's Design Principles and Criteria. It is not clear how the list of criteria was established, or whether the list is complete. The presented evaluation against these criteria is totally subjective and does not differentiate between TOMs. This appears to be an insubstantive evaluation.	Supplier Agents
1	Broadly yes,	<ol style="list-style-type: none"> Coverage. Disagree on UMS as less developed than other market areas. Would say 'supports' rather than strongly supports. Cost reflectivity. Network charging is not yet clear. How Group Correction Factor (GCF) error is allocated is not yet clear so would say 'supports' rather than strongly supports. Design Flexibility. Difficult to say give we can't be certain on what changes are coming. No disagreement though. 	Big Supplier with Agents

Key Themes by Question (10, 2)

1	No	<p>While we broadly agree with the DWG's initial evaluation against the evaluation criteria, we would like to note the following points:</p> <ul style="list-style-type: none"> • Export coverage – It is not clear why the TOMs are only shown to support, rather than strongly support, export coverage, as in the Design Principles section the same services and processes would apply for export as for import under all of the TOMs. • Customer billing interaction – as noted in our response to Question 5, we do not believe that the TOMs have been shown to fully address the relationship between settlement and customer billing. The issue is not just whether data is available for customer billing, but how Suppliers would be able to reconcile the amount of energy being billed to that being settled, and how readings would be generated in the event of a scenario such as Change of Supplier. • Design flexibility – it is not clear that the reliance on transfer of historic data will be removed under any of the TOMs as it is has not yet been determined what (if any) data may need to be transferred in order enable a new Supplier/Agent to be able to carry out specific functions – for example, accurate estimation. We suggest this point cannot be assessed at this stage. 	Big Supplier
2	No comment		Software Provider, Community Energy
1	<p>The load shaping service does not meet the "simple and cost effective" criteria.</p> <p>We do not agree that TOM E supports innovation and Aggregation for Smart Meters, it also creates a single point of failure which is by definition bad design.</p>	<p>We do not support the principle that the estimation requires a Load Shaping service provider.</p> <p>We would like to explore other means of keeping estimating non smart meters as well as estimating missing data for Smart Meters. Load shaping or profiling, no matter how it is done is prone to inaccuracy and might not provide any more accurate profile than using the profile of a similar site. We would be fully supportive of a process where Load Shaping, as an ongoing task, no longer exists.</p> <p>We do not agree that TOM E supports innovation with a central service provider for data retrieval, processing and</p> <p>Aggregation for Smart Meters, it also creates a single point of failure which is by definition bad design.</p>	Supplier Agent
2	Yes	We support the DWG's initial views against the evaluation criteria.	Big Suppliers

Key Themes by Question (11, 1)

Question 11 Are there any Risks, Assumptions, Issues or Dependencies not identified by the DWG that should be included in the RAID log?			
Number	Response	Rationale	Market Role
1	No	<p>We understand that I03 is being addressed by the Faster and More Reliable Switching Programme.</p> <p>Although the DWG group has considered the risks with certain developments in the industry, the exact detail of the changes might create unforeseen implementation challenges and therefore present risks. Additional items that will need to be closely monitored would be:</p> <ul style="list-style-type: none"> • Remote EV Charging including chargeable roads as being tested in the USA • Peer to Peer Trading (Elexon White Paper) <p>15 minute Settlement</p>	Big Supplier with Agent
5	Not at this stage,		
3	Yes	<p>The RAID log does not identify any risks to consumers. For example, the risk of reduced consumer choice and increased costs should centralisation occur, this is particularly relevant for the smaller non-domestic market where customer appointed agents are commonplace. Similarly, there is a risk that consumers could be mis-sold TOU tariffs if data access guidelines aren't clear or that responding to price signals will put them at risk (e.g. vulnerable consumers with electric heating). Finally, we would argue that reputational damage to the SMIP is a risk to the implementation of MHHS as this will have a direct impact on the number of Smart meters deployed.</p>	Supplier Agents
1	Yes	<p>There are no captured assumptions about implementation processes; i.e. that a process can be found to transition to the chosen TOM that minimises risk to the Settlement process during the transition period.</p>	Supplier Agent
2	Yes	<ul style="list-style-type: none"> • It's unclear how Group Correction Factor error will be allocated across customer types and suppliers as the market migrates to HHS. • Could there be an impact to the central switching service if industry DC / DA roles are merged? <ul style="list-style-type: none"> SMETS1 migration to DCC; Extent of SMETS penetration impeding business case delivery Appetite for load shifting restricting business case delivery Customer contracts with agents must be accommodated <p>OFGEM's reserved policy decisions (central agent and DAPP) need to be informed by the findings of DWG and TOM design needs informed by the responses to OFGEM's RFIs – i.e. joined up policy and design.</p>	<p>Big Supplier with Agent</p> <p>Big Supplier</p>

Key Themes by Question (11, 2)

1	NA	<p>We would welcome further clarity on how the Risks, Assumptions, Issues and Dependencies are being managed. As an example, in regards to the single risk that has been identified to date it is not clear what the impact of this risk materialising would be, what actions are being taken to mitigate this risk, and by whom. Similarly, actions need to be taken to validate the Assumptions that have been noted, especially those that are critical to the programme. The assumptions that HH data from smart meters is suitable for HH settlement, and that DCC will be able to meet its SLAs in enabling access to HH data on smart meters, are critical and need to be confirmed.</p> <p>In regards to the specific RAID items:</p> <p>A08 – Would it be more appropriate to make an assumption that all smart meters will be operated as 'smart' by the Supplier in the target end state, as it is not yet clear that this will be via the DCC for all meters?</p> <p>I02 – Is this an issue that needs to be referred to the Ofgem Switching Programme which is considering related MPANs?</p> <p>I03 – We would welcome clarity on why identifying types of customers and metering at the point of sale would be an issue for the settlement process. Should this be required then again this should be something that is referred to the Ofgem Switching Programme or the joint SPAA/MRA group looking at development of a Market Intelligence Service based on ECOES and DES.</p>	Big Supplier
2	No comment		Software Provider, Community Energy
1	No	D03 is one of the most important dependencies. If access to period data is not provided, HHS cannot be delivered	Supplier Agent
1	Yes	There seems to be a general assumption that all data streams should come together at the DA stage. However, for ease of keeping Smart and AMR separate (and this is important for existing customer/DCDA relationships) we feel that it would be better if everything could come together at the Volume Allocation stage. Clearly, this needs to be weighed up against any possible advantages for drilling down to MPAN level. These advantages need to be laid out clearly during the decision-making process.	Smaller Supplier

Key Themes by Question (11, 3)

1	We are concerned that the following might not be appropriately identified/managed;	<p>. Assumptions that all Smart meters deal equally with Import and Export – there is a limitation in the current SMETS/GBCS specifications which need to be better understood by the MHHS project, to avoid risks.</p> <ul style="list-style-type: none"> • Risk: DCC current defined licence/architecture/model cannot support the role of Other User to carry out a • Meter Reading Service role on behalf of Suppliers • Risk: to overall SEC end to end security if allowing all Meter Reading Services to use the Other User Role to collect Critical Command Service Requests for daily retrieval of Settlement Level Data. • Risk: lack of understanding about the portion of NHH settled Meter Points which need to be operating compliant Smart Metering Systems for a new Smart HH Settlement regime to be economically viable to set up and providing benefits to end consumers. • Risk: if the scope is widened too early in the process, e.g. to include innovations in new technologies and Energy Services, that the focus is reduced to deliver the core requirements for HHS, which can delay the timely move to the next stage. • Risk: if the scope changes, that the project delivery may significantly overrun, by which time technology has moved on and better solutions may have emerged. resulting in implementation of an obsolete/out of date solution. • Risk: a single Service Provider appointment for the E2E process may provide an overall benefit. However, it carries the risk that if the single Service Provider fails, then the whole process fails, resulting in a greater overall effect on Settlements. • Issue: formal definition for Smart Metered “HH Settlements” is required, to ensure the TOM’s are clear in what they cover and that there may be variations in HH Settlement provision for existing HH, existing AMR and the new mandated HHS. • Dependency: for the MHHS project to engage with TABASC expertise during MHHS TOM Stage 2 to understand limitations of Smart, assumptions, gaps. • Dependency: for OFGEM to seek engagement with BEIS and GCHQ regarding the proposal. To avoid any late considerations which may materially change the proposal and appropriateness of considering one TOM over another. Which may also impact the economic business case or the efficiency of certain models. • Dependency: on the confirmation of the outstanding policies for MHHS. 	Big Supplier
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- What are the key points which the DAB think we should take away from the stakeholder responses. In particular:
 - Does this fundamentally change or add any new skeleton TOM options
 - Are there any particular issues raised by the stakeholder feedback which the DWG should consider for stage two
- Meeting wrap up

Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.