ofgem Making a positive difference for energy consumers

Design Advisory Board

Meeting 5

Anna Stacey and George Huang

25/09/2018

Agenda

1. Welcome & meeting overview – *10 to 10.10 am*
2. Update on action items from the previous meeting – *10.10 to 10.30 am*
3. Update on Access to HH data and the Business Case – *10.30 to 11 am*
4. Update on forward work plan and DWG progress to date – *11 to 11.45 am*
5. Interaction between HHS & future market models – *11.45 am to 1 pm*

Lunch – *1 to 1.30 pm*

6. DAB consideration of specific TOM design issues – *1 to 3.45 pm*
7. Update on export settlement – *3.45 to 4.15 pm*

Objectives for today

- Update the DAB on the TOM design work and export settlement
- Direction to the DWG and update of work on future market models
- Views on how the remaining TOM options should be evaluated
- Views on the load shaping service and settlement timetable and the starting point for the transition to HHS

Update on action items

Action item	Status
BEIS to follow up questions DAB members have about the dynamic dispatch model	Completed
ELEXON to send link to webinar about the white paper on enabling multiple suppliers	Completed
Update DAB dependencies log to incorporate DAB member comments	Completed
ELEXON to update FIT export spill estimates once 2017 FIT data is available	ELEXON to complete
DAB members to send availability for proposed future meeting dates	Completed

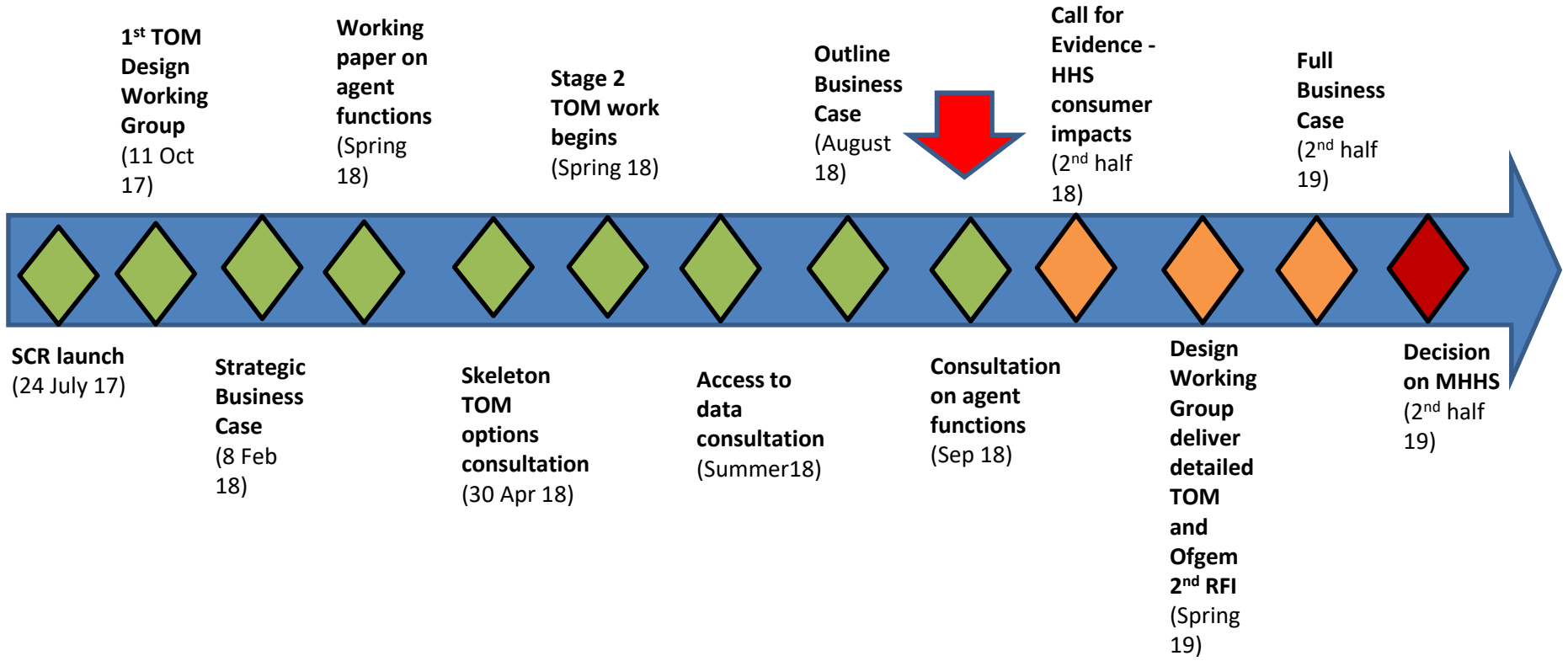
Update on action items

Action item	Status
Ofgem to update DAB on options for mandating HH export settlement	Update to be provided in this meeting
ELEXON to follow up on TOM consultation responses where further clarity is needed	Completed
ELEXON to update DAB on proof of concept work with blockchain	Update to be provided in this meeting
Ofgem to organise presentation on blockchain	Ofgem to organise in subsequent meeting
ELEXON to outline which date items should be extracted for settlement for DAB members	Update to be provided in this meeting

Project Update

July 2017

Winter 2019



Outline Business Case

- Published on **17th August 2018**
- **Second** of three iteration of the Business Case (Full Business Case in second half 2019)
- **Draft economic assessment:**
  - indicates substantial potential benefits, suggesting we should centre on when and how, rather than whether, the reform should be introduced.
  - Range of benefits (**net welfare**) from model: **£1.9bn - £5.4bn** by 2045
- **Export Settlement:**
  - our current view is that market-wide HHS of export would help to realise the full benefits of market-wide settlement reform.
  - FITs scheme is BEIS' policy
  - We are seeking feedback from stakeholders on this (deadline 17th October 2018)

Data Access consultation

- Almost 30 responses, from a range of organisations
- Large number in support of mandatory access to data rather than opt out
- Some favour 'hidden identity', but most think this too costly
- Concerns around opt out: Mixed views on expect numbers, concern about gaming, feel consumers won't be able to make informed choice
- People agreeing with opt-out think it's best balance of benefits vs risks and prevents damage to smart meter programme

Data Access consultation

- Existing customers: Concern that disengaged customers could be left on opt-in for a long time, so most prefer 'clean slate' approach
- Forecasting: Many think access to data is needed alongside settlement purposes, in changing market profiles will no longer be relevant
- Extra information suggested for forecasting:
  - is the customer on a ToU tariff, are they contracted to a demand side aggregator, do they have an EV, storage, solar panels, heat pumps, EPC rating of the building, occupancy profile (working couple / young family), peak time (4-7PM) ratio of demand, winter : summer ratio of demand.

Update on forward work plan

- Since the last DAB meeting, we have met with ELEXON to discuss the forward work plan
- To ensure the TOM design work can continue we will be providing the DWG with 'least regrets' policy steers on access to HH data and agent functions in October/November 2018
- Done some additional thinking on key milestones in early 2019 to deliver the TOM.
  - DAB meetings will be required to review preferred TOM when first delivered and following stakeholder consultation
  - This is likely to require DAB meeting in April to review consultation responses

Design Working Group: Stage 2 milestones and interaction with Ofgem policy areas

(P) = Provisional	2018				2019							
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Design Working Group activities												
DWG workgroups develop solution requirements	Develop & draft solution											
DWG evaluates TOMs and selects final preferred TOM	TOM evaluation and selection*											
DWG Meeting 11 (review workgroup progress / agree TOM evaluation approach)	18											
DWG Meeting 12 (start TOM evaluation)		18										
DWG Meeting 13 (review draft requirements / agree single preferred TOM)			13									
DWG Meeting 14 (agree final TOM requirements & initial transition options)					15							
ELEXON delivers requirements & transition options for the single preferred TOM					Report							
DWG Meeting 15 (agree content of consultation on final TOM evaluation)						12						
4-week consultation on final TOM evaluation and initial transition options						Consultation**						
DWG Meeting 16 (review responses)							26					
ELEXON/DWG refine transition approach (may use DWG workgroup)								Transition devl.				
DWG Meeting 17 (agree transition approach for consultation)									22			
4-week consultation on transition approach										Consultation		
ELEXON undertakes Settlement impact assessment										IA		
DWG Meeting 18 (review responses & the draft Stage 2 report)											17	
DWG Meeting 19 (agree final Stage 2 report)												21
ELEXON delivers Stage 2 report to Ofgem - STAGE 2 COMPLETE												Report
Design Advisory Board meetings												
DAB Meeting 5	25											
DAB Meeting 6			27									
DAB Meeting 7					31							
DAB Meeting 8								TBC				
Ofgem policy milestones												
TOM Board meetings	20	18			17	21	21	18				
Centralisation	Steer		Steer		Dec. (P)							
Data access & privacy	IA		Steer		Dec. (P)							
Future-enabling TOMs	Consultation (P)											
MHHS business case	OBC consultation					RFI (P)			IA (P)			

* Dependent on Ofgem's 'least-regrets' steers: (1) being received by the Nov-18 DWG meeting; (2) giving enough detail for the DWG to finalise the TOM design & choose between the TOMs; (3) removing at least one TOM; and (4) not requiring significant extra 'hidden identity' impacts on existing TOM services or on services currently outside the TOMs

** Dependent on receiving Ofgem's final policy decisions on centralisation and data access/privacy and these not differing from Ofgem's Nov-18 steers

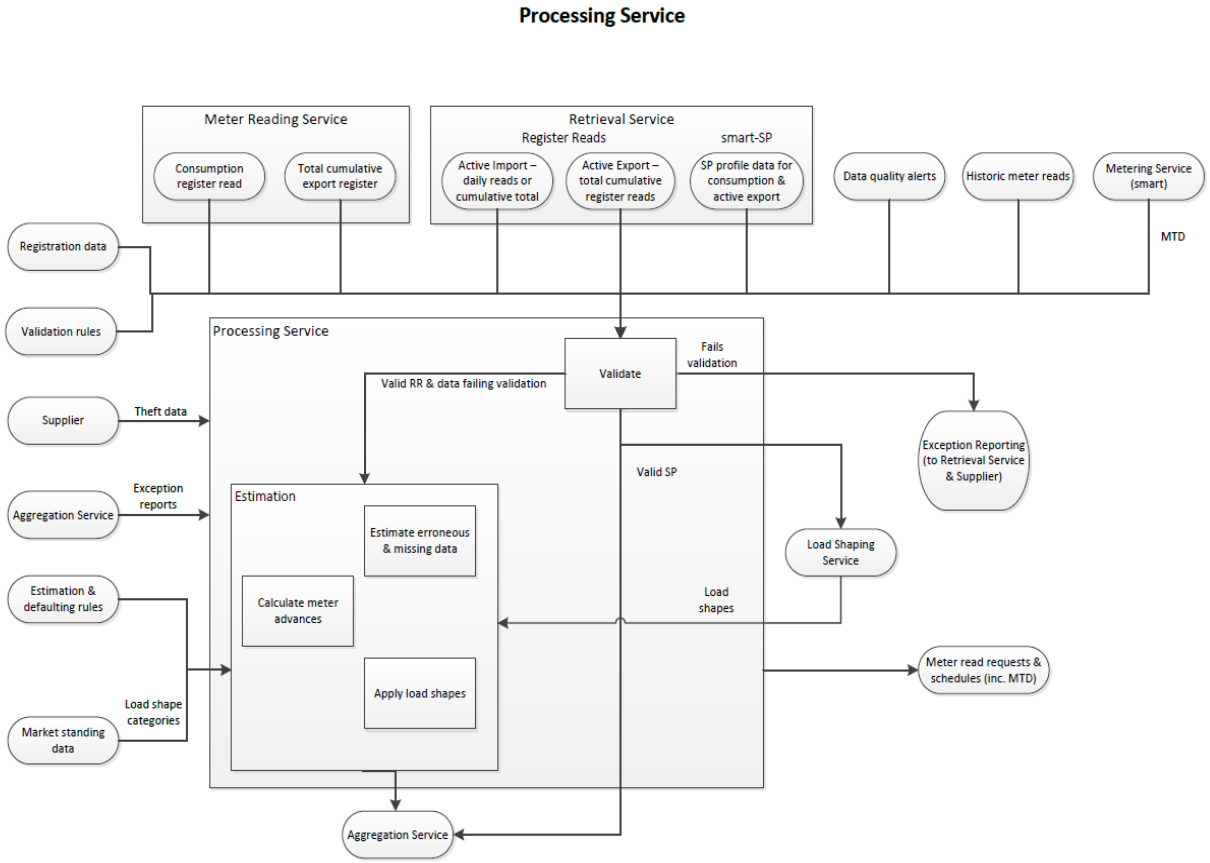
Correct as of 20/09/2018

DWG progress update

- The DWG is on track to deliver a TOM in January 2019
- For stage 2, DWG formed four workgroups to developed detailed service requirements for the TOMs:
  - Workgroup 1: Metering, Meter Reading and Retrieval Services
  - Workgroup 2: Processing, Load Shaping Services and Registration Interaction
  - Workgroup 3: Settlement Period Unmetered Supplies Service and Distribution Business Interaction
  - Workgroup 4: Aggregation and Volume Allocation Services and Registration Interaction

Update on DWG work groups

- Each Workgroup has met at least twice.
- A gap analysis meeting has been held and diagrams for each Service are being refined:



Update on DWG Workgroups

- We are up to the fifth iteration of requirements for most Services:

Ref #	Requirement Title	Category	Sub-Category	Requirement Description	Applicable To	MoSCoW Rating
PSS1.0	Adherence to Industry Codes	Governance	Code Compliance	The PSS shall comply with all relevant Industry Codes and implement changes to the PSS required by Modifications to the Codes.	Processing Service (Smart-SP)	Must have
PSS1.1	PSS flexible to changes in Settlement Period Definition	General	Service Design	The PSS must be designed flexibly to accommodate changes in the definition of a Settlement Period.	Processing Service (Smart-SP)	Must have
PSS1.2	PSS processes consumption data in kWh and UTC	General	Service Design	The PSS must be able to hold SP level data in Coordinated Universal Time (UTC) and in kiloWatthours (kWh) to three decimal places.	Processing Service (Smart-SP)	Must have
PSS1.3	PSS Outputs consumption data in kWhs	General	Service Design	The PSS must be able to output SP level consumption data in Clock Time (CLK) and Coordinated Universal Time (UTC) and in kiloWatthours (kWh) to three decimal places.	Processing Service (Smart-SP)	Must have
PSS1.4	PSS uses a qualified system	General	Service Design	The PSS must use Qualified systems and processes [so approved in accordance with [BSCP537] in carrying out the collection of data from VAS Metering Equipment.	Processing Service (Smart-SP)	Must have
PSS1.5	PSS processes data for all Settlement days for which it is responsible	Processing	General	On change of PSS to a new PSS or a new [ARP] and irrespective of whether there is a Change of Measurement Class (CoMC), the PSS must retain responsibility for data collected for all Settlement Days that the Service was registered for by the Supplier in the Registration Service.	Processing Service (Smart-SP)	Could have
PSS1.5	PSS request access where not available	Processing	Validation	Where the PSS cannot access data in sufficient time to enable it to fulfil its obligations as PSS, it must request from the BRP (Supplier) or its agent that the access to the data is required forthwith.	Processing Service (Smart-SP)	Must have

- Some fundamental questions need to be answered before they can be finalised.

E.g. System architecture and process for appointment of Services to Metering Systems

Meter Data Requirements

- Work Group 2 has discussed the Meter Data requirements and set out the options for each meter/ data type variant (see atachement):

Meter Type	Measurement Quantity	Data Type (Settlement)	Data required (Settlement and Validation)	Number of Readings	Data Availability
SMETS2	Active Import	SP Level Data	Active Import Profile data **And** Daily Consumption log **OR** Import Daily Read Log	48 per Settlement day 1 per Settlement days 1 per Settlement days	13 months 731 days 31 days
SMET2	Active Export	SP Level Data	Active Export Profile data **And** Export Daily Read Log	48 per Settlement day 1 per Settlement day	3 months 31 days
SMETS1	Active Import	SP Level Data	Active Import Profile data **And** Daily Consumption log **OR** Import Daily Read Log	48 per Settlement day 1 per Settlement day 1 per Settlement day	13 months 731 days 14 days
SMETS1	Active Export	SP Level Data	Active Export Profile **And** Total Active export Register	48 per Settlement day Snapshot Readings	3 months Continuous

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Future Retail Market Design (FRMD)

Policy update & HHS interactions – for discussion

Presentation to HHS Advisory Board
18th September 2018

Agent functions minded-to position

- Available at: https://www.ofgem.gov.uk/publications-and-updates/consultation-supplier-agent-functions-under-market-wide-settlement-reform

- Minded-to position that market-wide settlement reform should not centralise agent functions

  - data collection and meter operation should not be centralised

  - there may be a case for data not being aggregated in future for submission into central settlement systems. As such, there may well be a case for a TOM that does not include data aggregation and this is a detailed choice that the DWG should consider as part of the TOM work

- DWG have been given a steer to proceed with TOM design on the basis of the minded-to position on agent functions

Agent functions minded-to position

- Rationale for minded-to position on data aggregation is that:
  - current data aggregation requirements reflect technological arrangements which existed at the time it was introduced
  - central systems can now work with fully disaggregated data
  - submitting aggregated data into central settlement is not inherently desirable. Having disaggregated data in central settlement could provide more flexibility to implement future changes
- **Challenge for DAB:** taking into account presentation on future market models, what are your views on whether meter data should still be aggregated prior to submission into central settlement systems. How else could the TOM design work be flexible to potential future market models?

Rationale for reform – and different approaches to reform

Our goal:

Our ambition is a retail market that works for all consumers, both today and tomorrow. It is a market that helps drive the full benefits of the energy transition, with greater system efficiency helping to lower overall costs. It is a market where competition constrains prices, drives efficiency and delivers the range of services and products that consumers need. And it is a market where disengaged consumers are also able to share in the benefits of competition.

Our thinking & approach:

See here for more on our call for evidence and thinking: https://www.ofgem.gov.uk/publications-and-updates/future-supply-market-arrangements-response-our-call-evidence

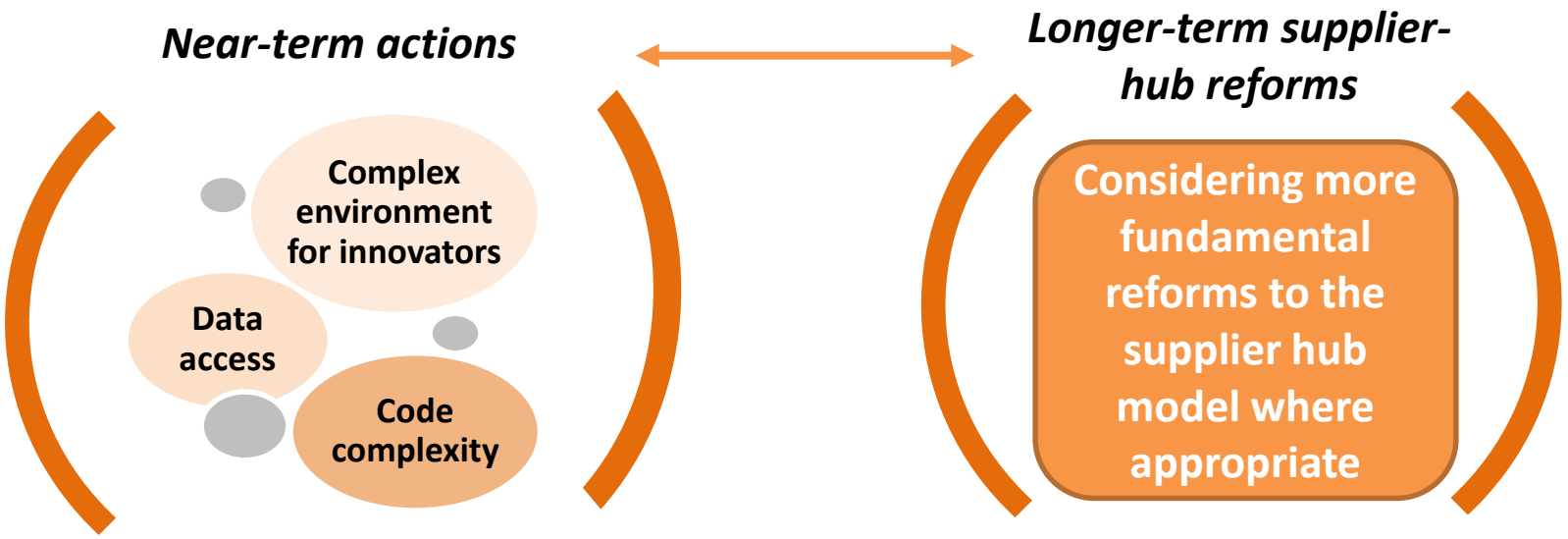
Issues with current arrangements:

1. **Persistent poor outcomes** for disengaged customers: - which has led to the reintroduction of price regulation.
2. **Structural barriers** to competition-led innovation – as a result of the scale of functions a business must take on if it wants to engage with energy customers, and the prescription over how it must engage.
3. Smart metering and settlement reform means **new market models now feasible** – much less need for customers to be "group-processed", much easier to allocate costs (and bill) directly.

Our conclusions:

We consider that the **current supplier hub model may not be fit for purpose for energy consumers over the longer term**. Specifically, we are not confident it will enable consumers to benefit fully from the greater levels of innovation, digitalisation and competition made possible by the energy system transition. We are also not convinced that the consumer protections framework in place under the current supplier hub model will be able to ensure existing and emerging risks are effectively managed into the future. Therefore, **we have concluded there is a strong case for considering fundamental reforms to the supplier hub model, and for evaluating how alternative arrangements might operate in practice.**

Next steps



We are progressing immediate actions in the following areas:

- **Enable customer data access** – progressing new arrangements that make it easier for consumers to share their data easily and securely with energy service providers.
- **Improving retail code arrangements** - We will aim to simplify the regulatory landscape by exploring how to accelerate the consolidation of relevant industry code provisions into the Retail Energy Code.
- **Enabling more seamless market entry for innovative propositions –** we will look at how we can improve the experience innovators have when entering the market.

Over the coming weeks and months we will engage a range of stakeholders on:

(1) our objectives for reforming the supplier-hub retail market model,

(2) the new market design options that could be explored, and

(3) specific implementation approaches that could be adopted.

Key to this work will be consideration of how:

- the scope and form of our regulation of the market may need to change in the longer term.
- default arrangements may need to change so consumers can access a reliable supply of energy at a reasonable price and level of service.

"How could the TOM design work be flexible to future market models being considered?"

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TOM evaluation criteria

Presentation to Design Advisory Board
25th September 2018

Aims of this discussion

- Outline DWG approach to the evaluation of the remaining TOM options
- Seek the DAB input on how the remaining options should be evaluated

TOM evaluation criteria

- DWG will be undertaking an assessment of the remaining TOM options in October and November to identify a preferred TOM
- DWG will use the 'least regrets' policy steers on agent functions and access to HH data
  - To be provided in late October/early November
- Current approach of the DWG is to undertake a targeted assessment, focusing on the key differences between the remaining options
  - Use a decision tree approach

TOM evaluation criteria

- Key points of differentiation are:
  - Whether smart retrieval services should be combined with smart processing services
  - Whether or not meter data should still be aggregated outside of central settlement
  - If data continues to be aggregated outside of central settlement, should the aggregation service be provided on a market-wide basis or be combined with processing
- DWG to look at pros and cons of each point of differentiation

TOM evaluation criteria

- When the DWG discuss the points of differentiation, what should the key considerations be?

- While many of the TOM design principles apply across the TOMs, some of them may help in the evaluation between differences

Design Principles applicable to all TOMs	Design Principles which may assist differentiation
Settlement timetable	Data retrieval, processing and validation
Data estimation	Network charging
Treatment of NHH settlement customers	Transition
Settlement of export	Innovation
Unmetered supplies	
Change of measurement class	

TOM evaluation criteria

Network charging

- TCR, and access and forward looking charges may change network charging arrangements

- TOM should be designed in a way to facilitate changes – having disaggregated data in central settlement may help this

Innovation

- Does DAB consider that settlement receiving aggregated data would help with ‘future-proofing’

TOM evaluation criteria

Other considerations

- Security and system resilience
- System architecture
- Anything else?

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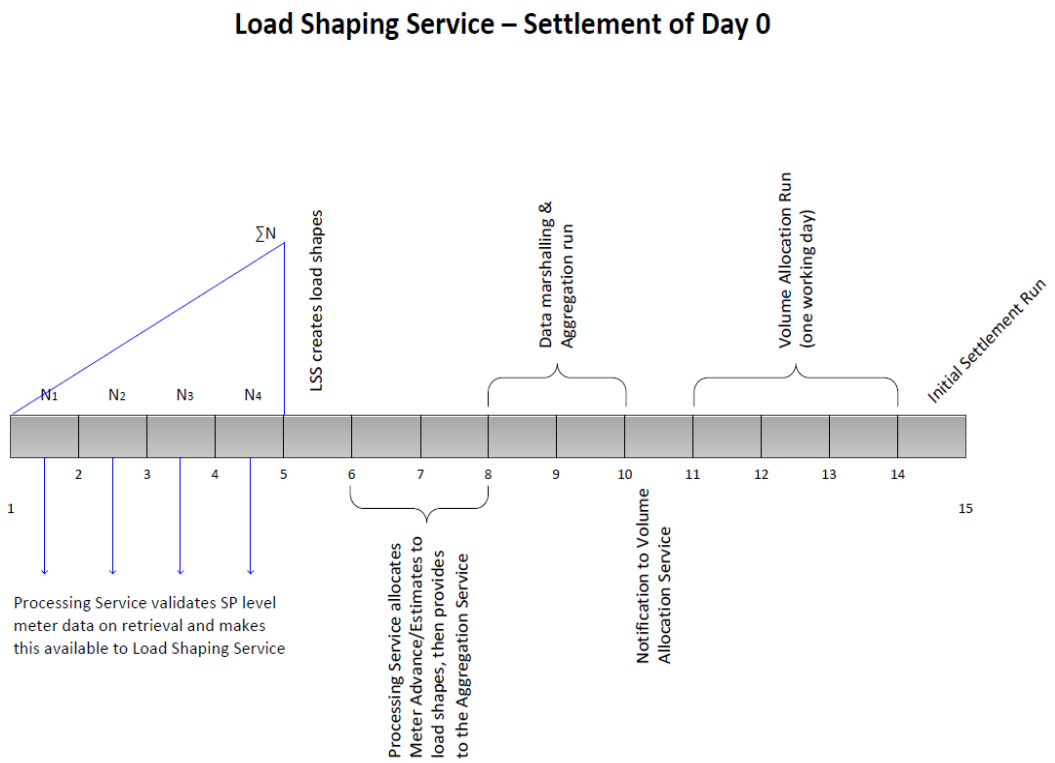
Load shaping service & settlement timetable

Presentation to Design Advisory Board
25th September 2018

Load Shaping Service

- Work Group 2 has agreed principles of how the Load Shaping Service will work:



- We have identified how the forward looking estimates will be derived.

MHHS Settlement Timetable Recommendations

DWG Work Group 4:

- Reviewed the work undertaken by the ESEG and PSRG;
- Agreed which assumptions are still applicable for the MHHS TOMs;
- Considered the optimum timing of the Settlement runs; and
- Are make a provisional recommendations to the DWG.

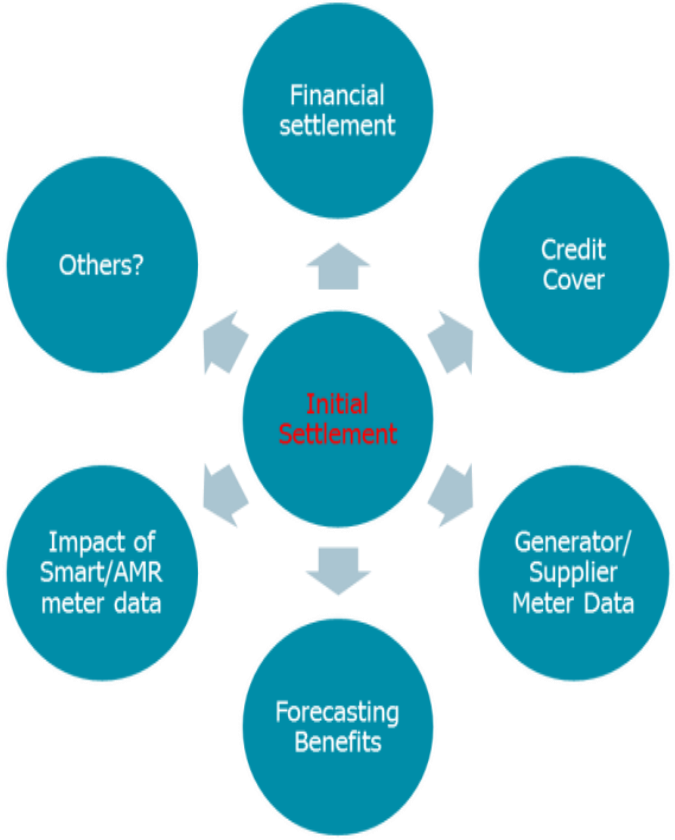
Recap - Current Settlement Timescales

- Currently seven settlement run types.
- The Interim Information Run (II) originally used to identify any issues with Central Volume Allocation (CVA) data for generators and Grid Supply Point (GSP) metering such that they could be resolved prior to Initial Settlement (SF).
- Timescales for the interim Reconciliation Runs (R1 to R3) were set around traditional meter reading cycles.
- Current timescales between Settlement Date and SVAA Run Date set out below.

Run	II	SF	R1	R2	R3	RF	DF
Working Days	4	15	33	78	148	287	587
Calendar Days (approx.)	4	24	51	116	215	417	843

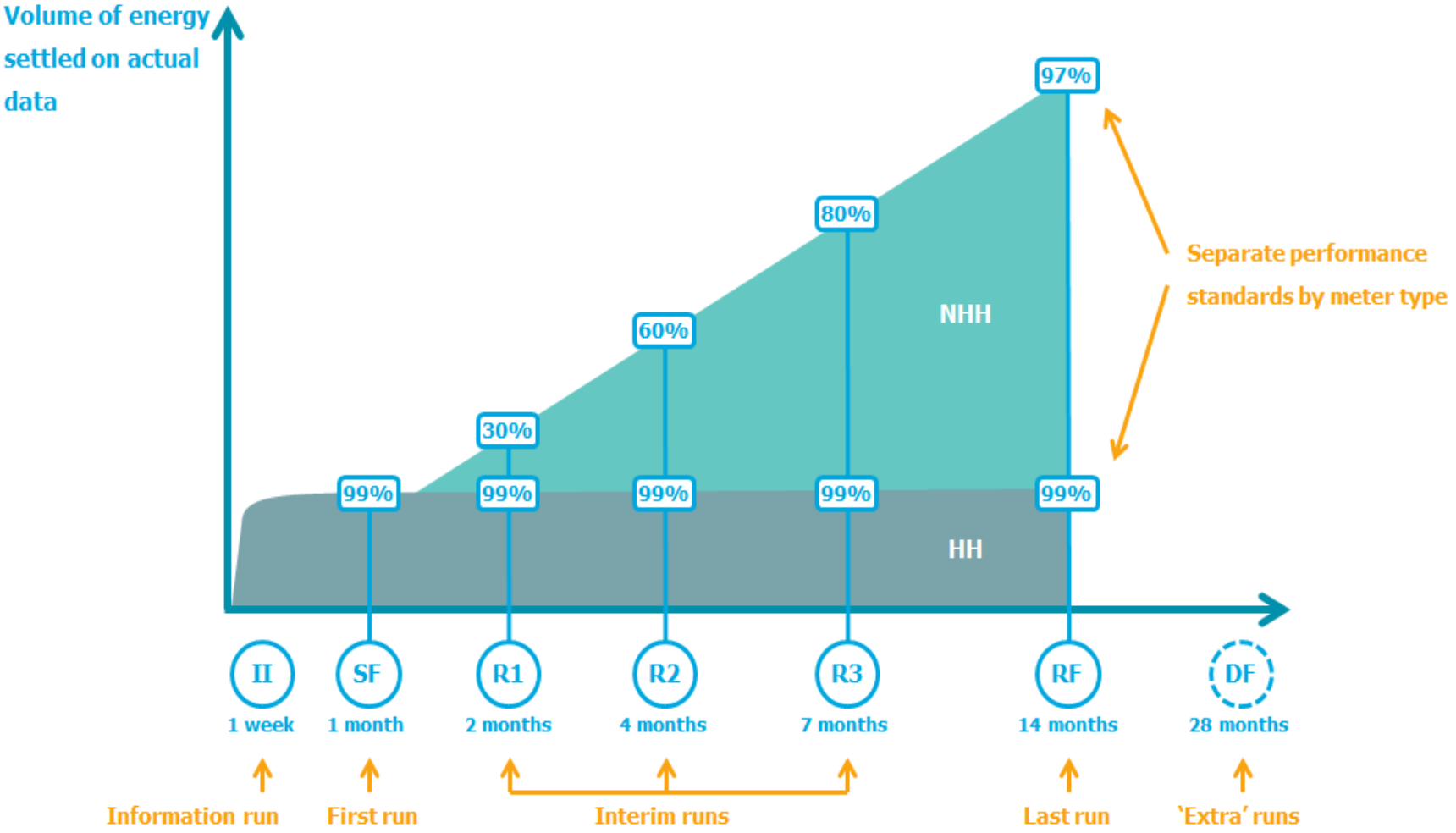
Key drivers for Initial and Final Settlement runs

Initial Settlement

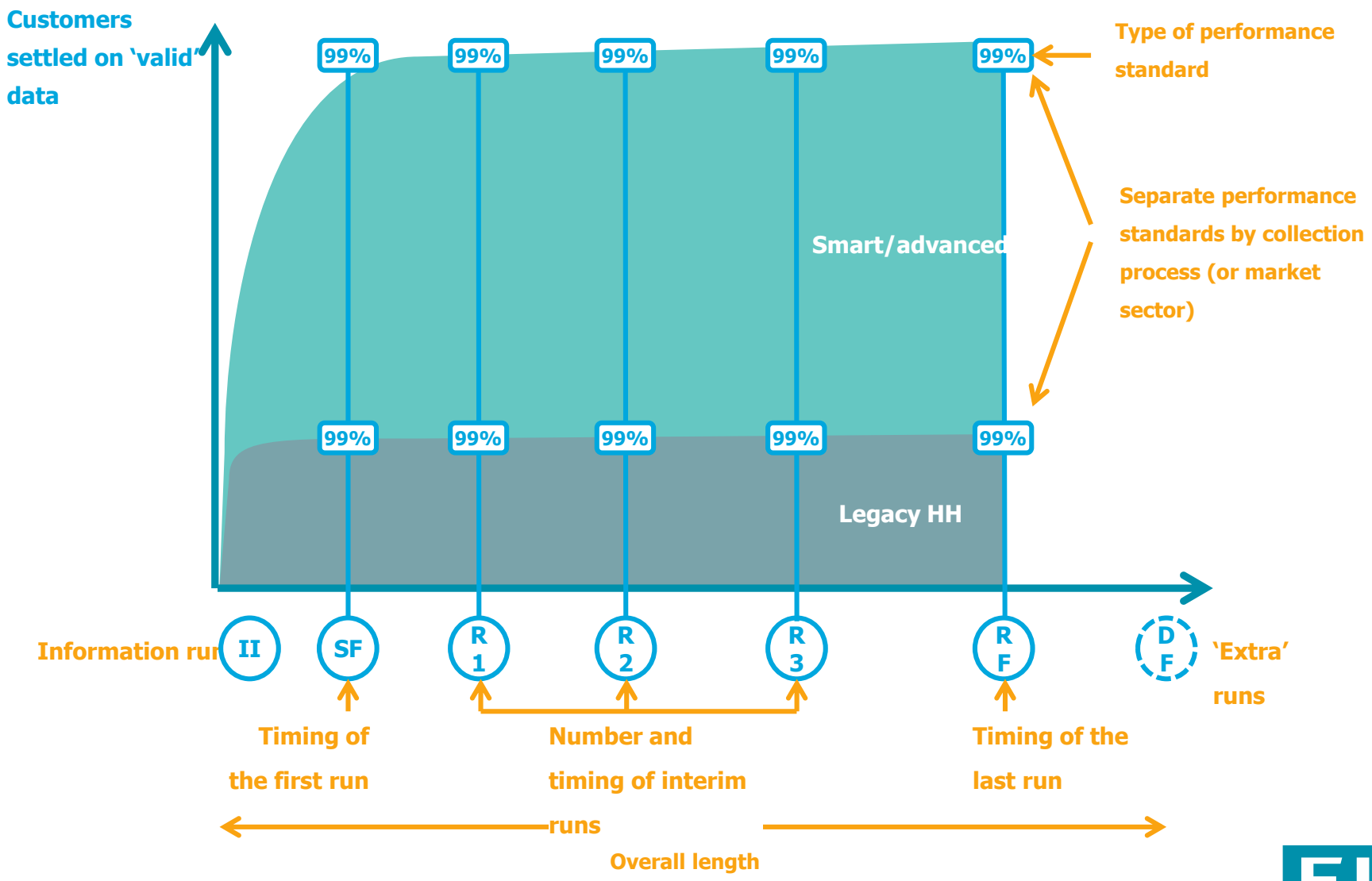


Final Settlement

The settlement timetable and the case for reform



Variables for Settlement timescales



Ofgem steer to DWG and WG4

- Ofgem indicated that at the TOM Board the SRO had indicated that:
  - The six to nine months proposal previously put forward by the ESEG for the final Settlement Run (RF) did not seem that ambitious; and
  - Was not sure that the LSS proposal for 10 WD for the initial Settlement run was the right answer.

WG4 considerations RF (1)

WG4 noted that:

- Customers under the smart roll-out and considerations for the LSS were assumed to be read at least once monthly;
- That there would be some metering systems that could not be read monthly (communication faults or non-remote capability); and
- Shorter timescales for data collection could incur significant DCC changes and associated costs that may undo the MHHS business case (the WG noted that the DCC would need to establish the costs of collecting data from all meters <1 month or even next day).

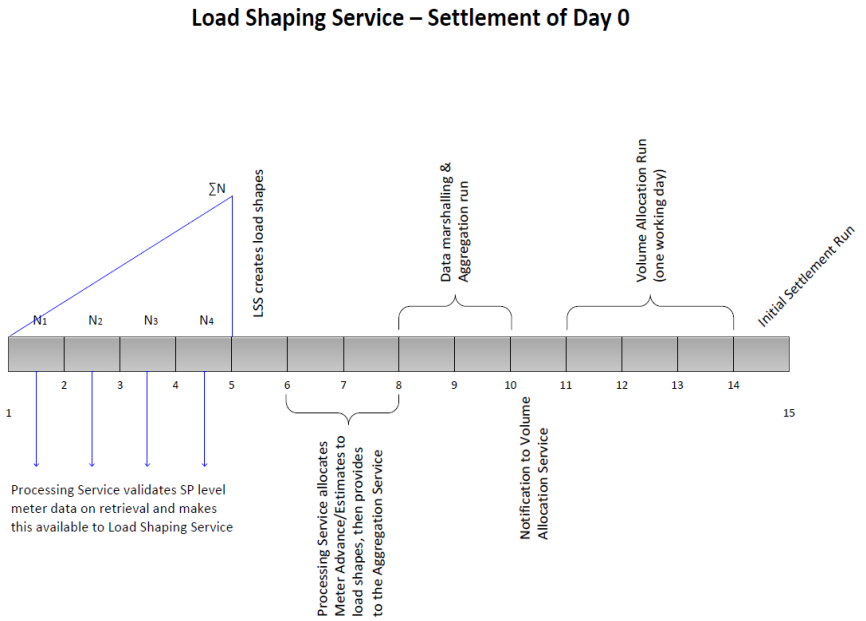
Hence, the WG considered that the timing of RF should be greater than 1 month and less than the ESEG proposal of 6 to 9 months.

WG4 considerations RF (2)

- The WG identified that the current R2 Run sat within the 'Goldilocks Zone' of between one and six months at approximately 4 months;
- The WG identified that this would give 4 attempts to access data for customers on monthly collection;
- It was noted that this was the equivalent of the 4 quarters for existing NHH customers;
- This timing would also give a window to fix communications faults and collect data prior to RF;
- That WG felt that a reduction from 14 to 4 months was sufficiently ambitious given the current unknowns around the smart meter roll-out (population) and system architecture required to deliver MHHS; and
- The WG considered that a 'realistic' scenario was required for the business case.

WG4 considerations SF (1)

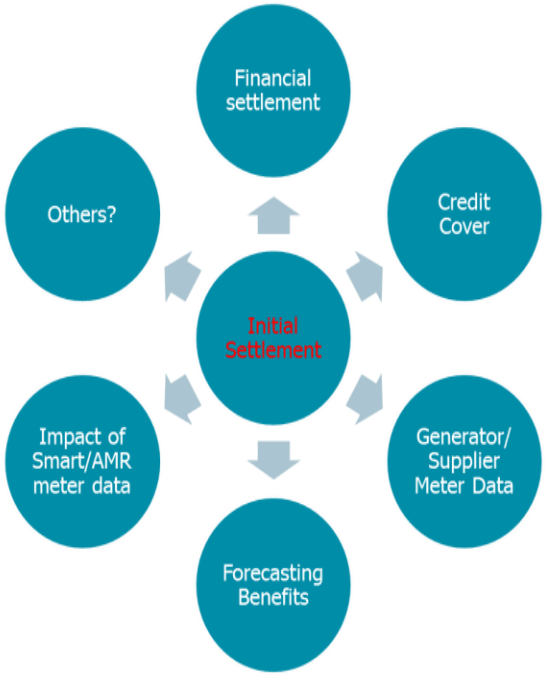
- The WG noted the proposed timetable set by WG2 and the comments from the SRO:



- The WG noted that time had been built in for data marshalling as well as processing timescales. It was felt that these could be reduced with an future architecture and was there was an interaction with the TOMs as some might be faster than others.

WG4 considerations SF (2)

- The WG noted that the key benefit identified was a reduction in credit cover:



- The WG noted the constraint provided by the need to have load shapes available and the need to then process and aggregate the data. It was felt that the 10 WD proposal from WG2 was a realistic proposal for the Business Case.

WG4 considerations Dispute Runs (1)

- The WG discussed Dispute Runs:
  - Were they required? – Yes, Supplier's would require an opportunity to correct data after RF. The thresholds for disputes could be reconsidered though.
  - The WG discussed the interaction with Supplier back-billing that was limited to 12 Months.
  - The WG agreed that tying the dispute run to this limitation would give a rational for proposing DF at 12 months.

WG Recommendations

WG4 Recommends that:

- RF should be moved 4 months (R2) in the Target end state;
- The potential DCC costs for shorter collection timescales should be established;
- That the initial Settlement Run should be set at 10 WD;
- That an interim reconciliation run be undertaken after the first month of data collection (similar to the R1 timing);
- That a dispute run should be set to 12 months to align with Supplier back billing limitations; and
- That the Interim Information run be retained at 4 WD to identify any issues with the identify any issues with Central Volume Allocation (CVA) data for generators and Grid Supply Point (GSP) metering such that they could be resolved prior to Initial Settlement (SF).
- The DWG noted the WG4 recommendation and are seeking further more quantitive data before agreeing the recommendations.

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Starting point of the transition to the TOM

Presentation to Design Advisory Board
25th September 2018

Starting point for transition

- Once a preferred TOM is identified, the DWG is scheduled to start consideration of transitional arrangements
- The TOM sets out the new settlement arrangements in the **target end state** – where the majority of customers have either smart or advanced metering infrastructure
- A question has arisen over what point the transition over to new settlement arrangements set out in the TOM should commence
- We would like to seek the DAB views on this issue

Starting point for transition

Transition

2.11. As part of the Business Case, Ofgem will develop an approach for the transition to HHS with the aim of providing certainty to industry on the timeframe for change and expectations on them. This will consider the costs and benefits of different implementation timeframes based on the commercial decisions that affect organisations in the transition, including the resources required to manage concurrent industry changes. The work on the transitional approach will need to be informed by the design of the TOM as it develops.

2.12. The TOM design work will include the design of settlement arrangements which will give effect to the transitional approach outlined by the Business Case. The TOM design work will also provide information for the Business Case on the costs and benefits of different timeframes for and approaches to the transition.

Starting point for transition

- Are there any fundamental prerequisites before the transition to the TOM can commence?
  - Is there a critical mass of HH meter data needed?
    - TOMs all assume that all smart meters will be enrolled into the DCC. The successful enrolment of a majority of installed SMETS1 meters will likely be required before the transition to the TOM can commence
    - Do not likely want to have dual profiling arrangements so there should be a sufficient number of customers sharing HH meter data for the load shaping service to work
  - Degree of certainty of system architecture requirements

Starting point for transition

- Are there any other considerations?
  - Length of the transitional period? If there is a longer transition period then customers could be moved on a more gradual basis.
  - Lessons learnt or considerations from the P272 transition
  - Interaction with other reform programmes (faster switching, charging reviews)
  - Period for testing of new system interfaces
  - Accreditation requirements for settlement services

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Update on export settlement

Presentation to Design Advisory Board
25th September 2018

Update on export settlement

- Since the last DAB meeting,
  - Received confirmation that mandating HH export settlement is within the scope of the Settlement Reform SCR
  - Published the OBC including a chapter on the benefits and costs of mandating HH export settlement. We are asking for stakeholder views on this (due 17th October)
  - BEIS, ELEXON and Ofgem have held a number of discussions on how to mandate HH export settlement and how this interacts with FIT policy
- Ofgem staff to develop some options on how HH export settlement could be mandated and consider including in the response to OBC responses

How to mandate HH export settlement

- It is currently optional to register licence exempt generation from export settlement
- Once registered, export generation capacity above 30kW must be HH settled, while below that it can either be HH or non-HH settled
- Very small number of MPANs currently registered for NHH export settlement compared to FIT installations
- Corrections which need to be made in settlement to account for unmetered export is smeared across all suppliers
  - Some suppliers may not be receiving the full benefit of spill from their FIT customers
  - Under current charging arrangements, there is a small benefit to suppliers registering export sites

How to mandate HH export settlement

- For HH export settled to be mandated:
  - Customer needs metering equipment capable of HH export metering – satisfied if customer has SMETS installation
  - BSC party needs to register as the responsible party of the export generation in settlement. This could be either:
    - the import supplier for the metering point, or
    - FIT supplier
  - There will need to be a process for the responsible supplier to identify if a customer is 'spilling' and should be registered for export settlement. Could be done by referencing to registers of installed generation or 'scan' sites for export using the DCC.
  - Different timeline for transitioning to mandatory HH export settlement than to the transition for half-hourly settlement

Meeting wrap up

- Any other business
- Summary of action items
- Next meeting date – 27 November

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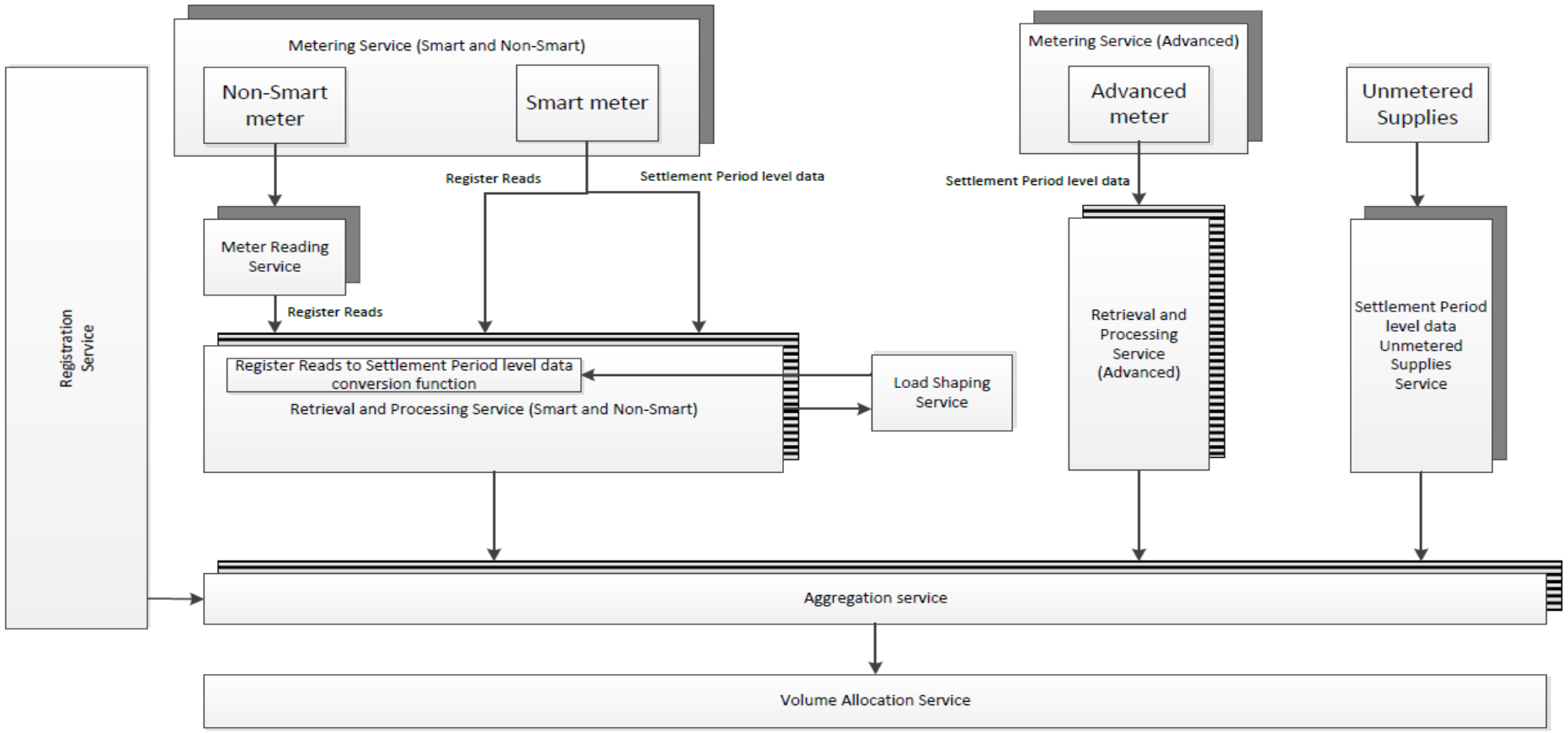
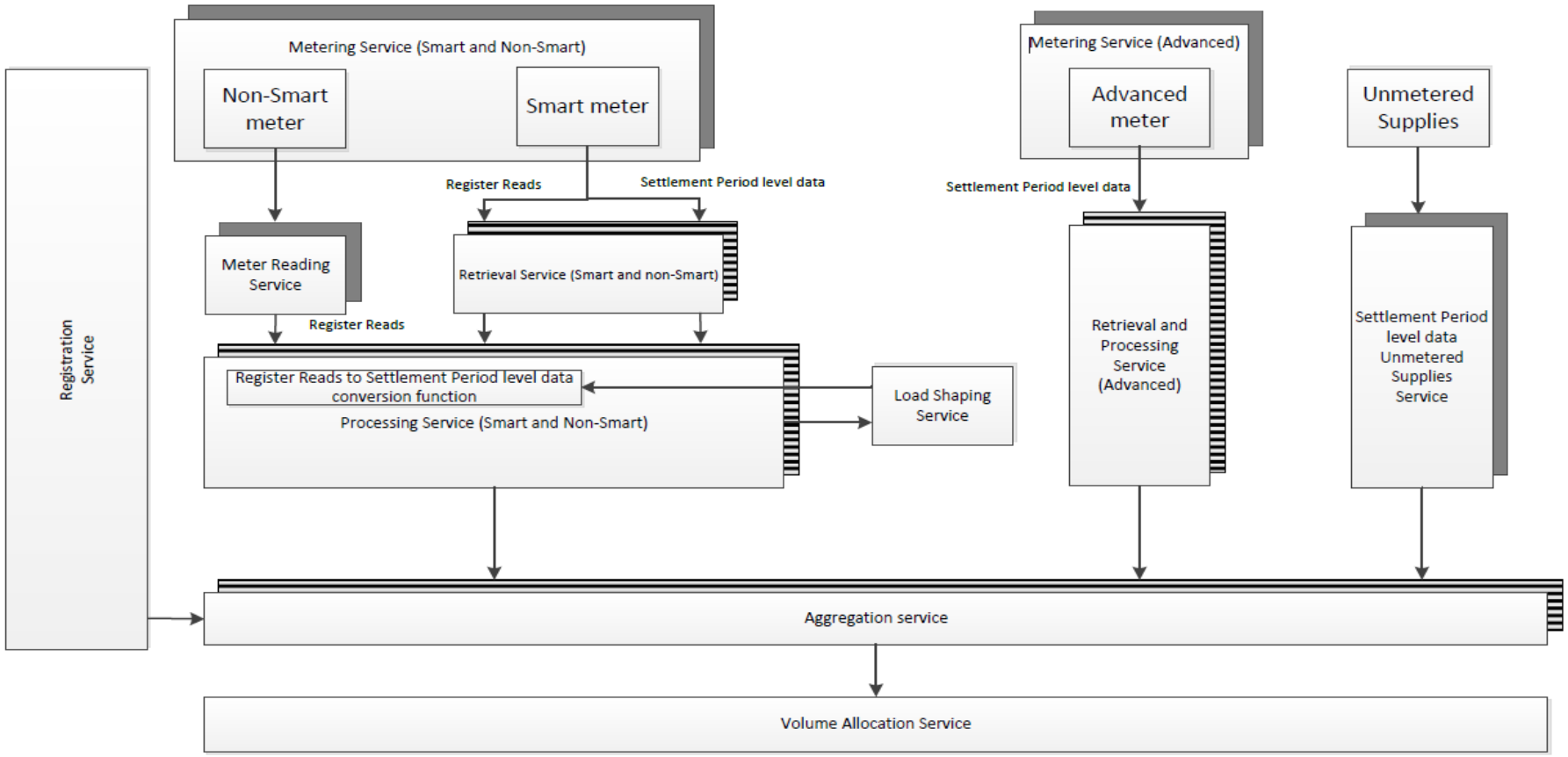
Appendix – skeleton TOMs

Presentation to Design Advisory Board
25th September 2018

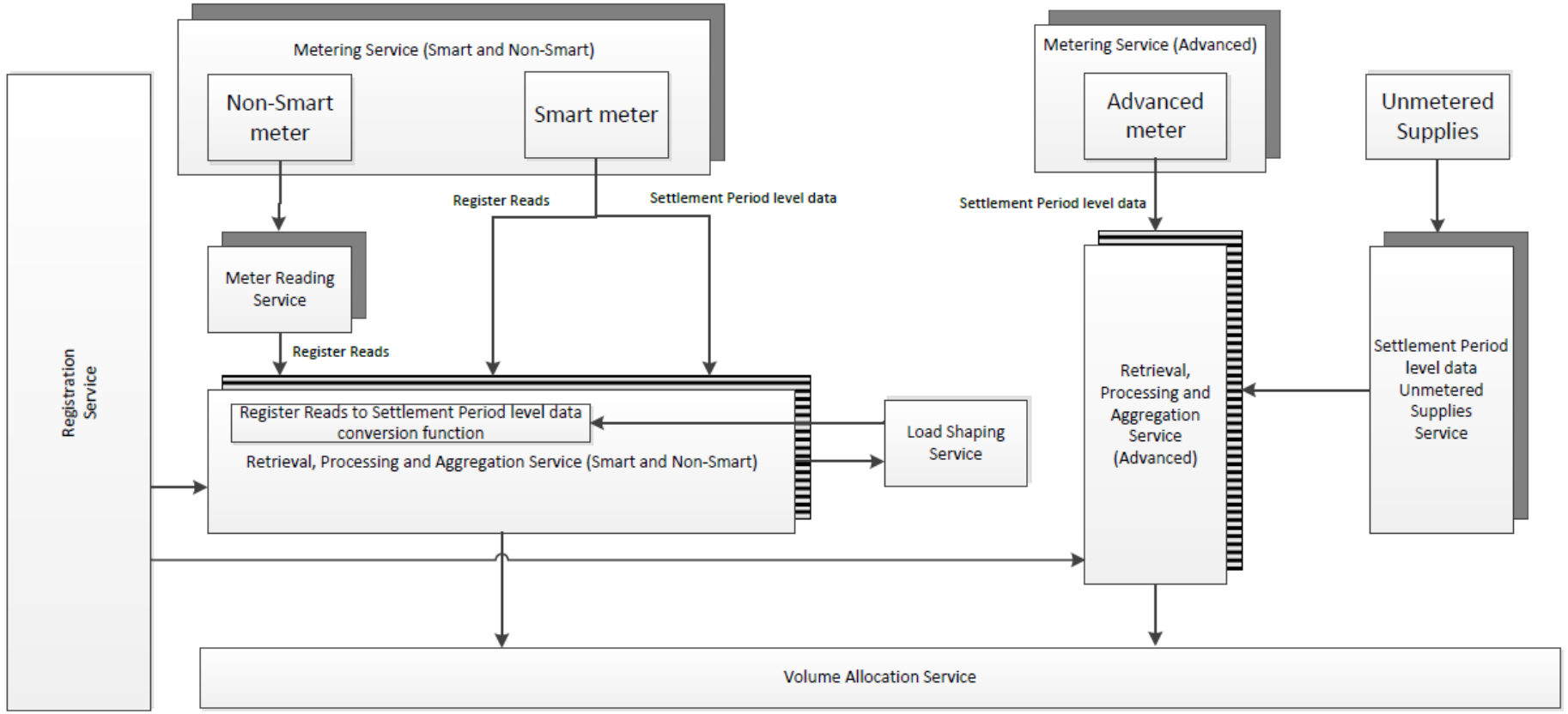
TOM A: Combined Retrieval and Processing with Separate Aggregation



TOM D: Separate Services



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



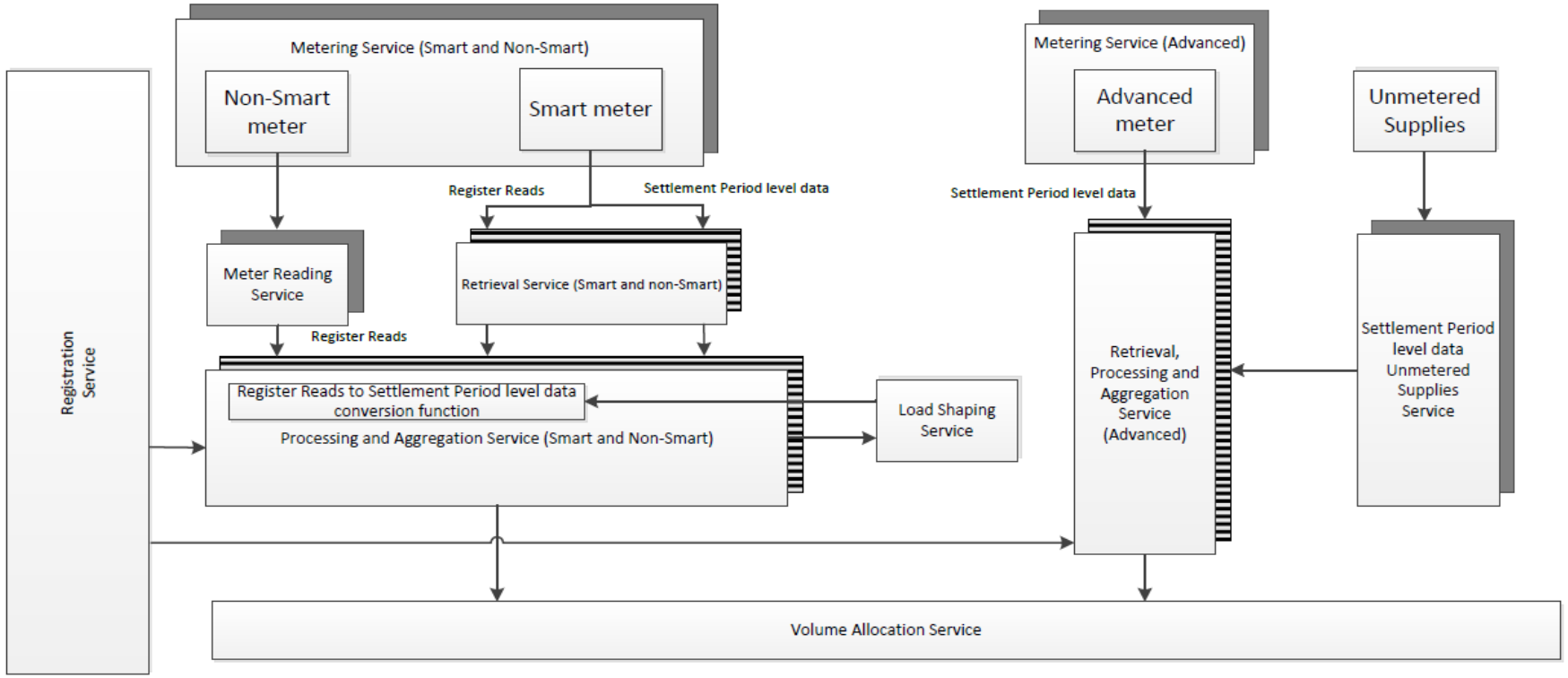
Key to shadows

Competitively procured

Competitively procured or single/multiple monopolies

No shadow Single or multiple monopolies

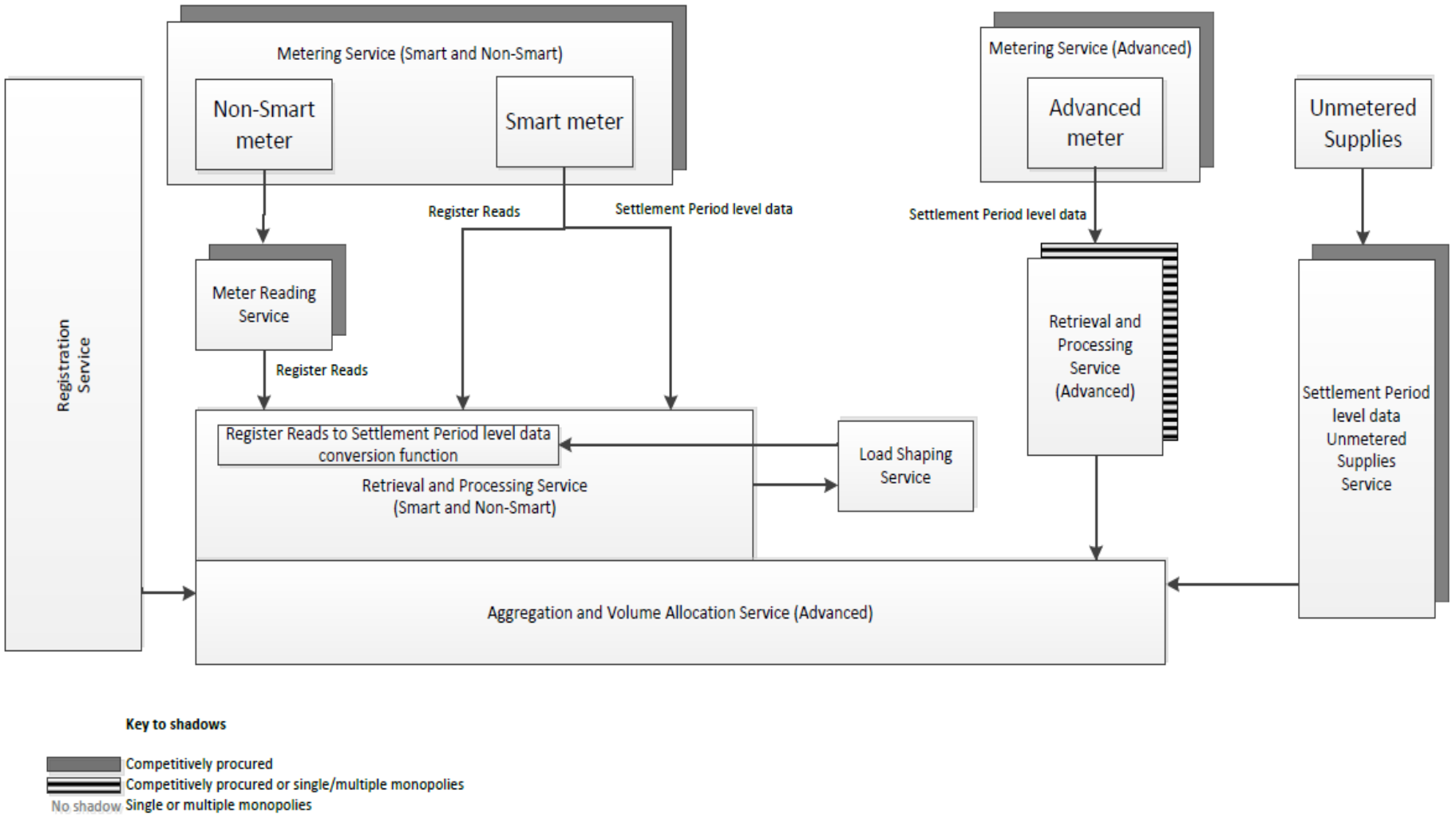
TOM B: Separate Retrieval with Combined Processing and Aggregation



Key to shadows

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

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



ofgem Making a positive difference for energy consumers

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.

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