MHHS PROGRAMME
Industry-led, Elexon facilitated

MHHS Design

Status Update #1

24 May 2022

Doc no: MHHS-DEL417

Version: 1.0

Confidentiality: PUBLIC

Summary - Design development process

Comms

- 2700 Participant email addresses
- 550 organisations
- Weekly distribution
- Every constituency included
- Fortnightly Design Status update from 24 May 2022

The Clock is the primary means of communications of the design status and Design Advisory Group (DAG) papers.

Working Group specific communications are sent directly to the Working Group attendees.

Artefact development

- 120 Artefacts
- Grouped into 4 staggered tranches
- Consulted in 69 Working Group meetings to date
- 260 people have been involved in the meetings, representing 60 organisations
- Average of 28 participant attendees per meeting
- A member from every constituency, except small suppliers, has attended a Business Process Requirement Working Group (BPRWG) and Technical Design Working Group (TDWG) meeting

DAG is the primary decision making body.

3x Working Groups guide the development of Design Artefacts.

9x Sub-Working Groups focus on developing specific MHHS design components.

Artefact review

- 33% of Artefacts have been reviewed to date, receiving 1400 comments
- 53% of comments resulted in changes to Artefacts
- 17% will be resolved in subsequent tranches
- 16% were clarifications
- 14% were rejected

Artefacts are reviewed by Participants in two review cycles, namely the Level 4 review and the Assurance review.

Participants record their comments via the Artefact portal.

The MHHS Design team review the comments and record their response and resulting action in the portal, and update the Design Artefacts accordingly.

If there is non-consensus on a response, the matter is discussed in the subsequent Working Group meeting, and if required, escalated to DAG.

DAG Baseline

- 20% of Artefacts are conditionally approved, subject to the resolution of 17 agreed design issues (tranche 1)
- Tranche 2 Artefacts are scheduled for conditional approval on 8 June 2022

Artefacts are issued to DAG for conditional approval per tranche.

When all tranches are completed and the agreed open design issues resolved, or with approved work-off plans, DAG will be requested to approve the baseline of all Design Artefacts.

Baseline tranche roadmap

Tranche	L4 Review	Assurance Review	BPRWG Meeting	DAG conditional approval
Tranche 1	Complete	Complete	Complete	Complete
Tranche 2	Complete	In progress	18th May	25th May
Tranche 3	25th May – 8th June	22nd June- 6th July	29th June	6th July
Tranche 4	8th June-22nd June	6th July- 20th July	13th July	20th July

CURRENT FOCUS AREAS TO MITIGATE DELIVERY RISKS:

- Introduced additional Project Management resources - Complete
- Implemented enhanced project delivery controls - Complete
- Communicate the plan to resolve open design issues and report on the status thereof – In progress
- Confirming alignment of the Cross-Code Advisory Group (CCAG) / DAG code drafting expectations – In progress
- Implement measures to proactively mitigate non-substantive Lead Delivery Partner (LDP) System Integrator (SI) Quality Assurance issues – In progress

TRANCHE PROGRESS SUMMARY:

Tranche 1 was conditionally approved at DAG on 11 May 2022 subject to the resolution of the agreed design issues and dependencies. The status of the open design issues will be communicated to DAG, and all Participants, fortnightly going forward.

Tranche 2 Artefacts were issued for Assurance review on 18 May 2022. The Assurance review cycle was delayed by one week to enable additional quality assurance checks to be carried out. The response to the assurance comments will be reviewed at the **BPRWG on 1 June 2022**, and the intention is to seek conditional approval of the Artefacts at the **8 June 2022 DAG meeting**.

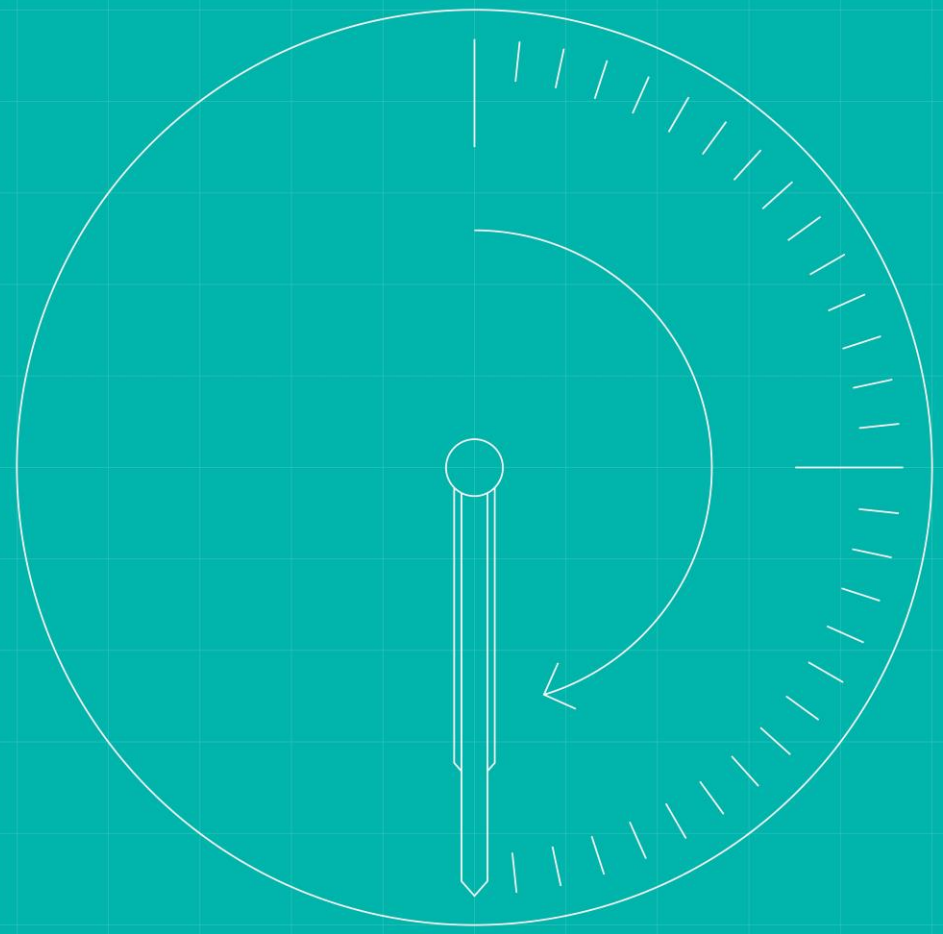
Tranche 3 is on track to be issued as per the roadmap.

Tranche 4 remains amber due to the unknowns associated with the impending optionality decisions. The critical path of the design decisions, open design issues and Artefacts is being carefully managed. Additional project management resource has been allocated to support the day-to-day co-ordination and management of design delivery and industry engagement activities.

Note: The Design RAID is included in the PSG reporting

Section 1

Confidence indicators



1.1 Design success criteria summary

The success criteria was derived from the BSC C12 and the MHHS Governance Framework

1. On time, to TOM and quality
2. Timely decisions and appropriate consultation
3. Aim for consensus and take all interests into account
4. LDP SI assured
5. Enable code drafting

1. The Senior Responsible Owner (SRO) will ensure the efficient, economical and co-ordinated design of IT Systems and business processes for MHHS Implementation, in accordance with the MHHS Target Operating Model (TOM) and implementation plan baselines

2. The SRO will ensure that decisions are taken in a timely way, whilst ensuring that appropriate consultation of all Programme parties is carried out at all stages

3. The SRO should aim for consensus wherever possible and seek to take into account the interests of all Programme parties and consumers

4. The LDP SI will assure that all necessary Design Artefacts were complete and sufficient to enable all parties to detailed design, build and test their systems ahead of integration or user testing

5. The Design will be appropriately defined to allow Code drafting to reflect the design without further design debate or further clarifications

Confident
Gaining confidence
Losing confidence
Not confident

1.2 Success criteria 1 - Delivery

The SRO will ensure the efficient, economical and co-ordinated design of IT Systems and business processes for MHHS Implementation, in accordance with the MHHS TOM and implementation plan baselines

ID	M5 Success criteria	Confidence
1.1	The Artefacts were delivered on time with no unresolved material design issues	Gaining confidence
1.2	There was a clearly defined architectural framework and associated principles	Confident
1.3	The architectural framework and principles were applied according to the Programme objectives and the business case	Confident
1.4	The Design documentation was clear, complete and to an appropriate level of detail to enable Participants to commence detail design activities	Gaining confidence
1.5	The Design aligned to the TOM as set out by the CCDG and Architecture Working Group (AWG)	Confident
1.6	The Design showed how the various components integrate with each other	Confident
1.7	There were appropriate data, process, and technical models, sufficiently cross-referenced, consistent, and complete	Confident
1.8	The Design will support effective and efficient testing	Gaining confidence
1.9	The Design defined how the system will be managed during operation, including outages/disruption and system recovery across all parties	Gaining confidence
1.10	A clear process had been followed to derive and validate the assumptions on which non-functional requirements are based	Gaining confidence
1.11	The design activity aligned and supported the pre M5 activities of Central Parties (E.g. Helix development prior to M5, Data Integration Platform procurement)	Confident
1.12	The Design mapped to components being developed outside the MHHS Programme (e.g. Elexon Helix and SEC MP162, REC CP R044)	Confident

Comment

1.1. Confidence in delivering Tranche 1-3 on time is good. Tranche 4 has been marked as 'gaining confidence' due to the inherent risks of its scope, and the complexity of bringing all the Artefacts together whilst resolving any material open design issues. The critical path of the design decisions, open design issues and Artefacts is being carefully managed. Additional project management resource has been allocated and additional controls implemented to support the day-to-day co-ordination and management of design delivery and industry engagement activities.

1.4. In terms of the 'appropriate level of detail', the understanding of the 'industry technical landscape' varies across Participants and as such there are varying expectations regarding the levelling and detail to be included in the design processes. There is a risk that participant service providers will require a more detailed view of the TOM and supporting design processes to derive their individual solution. The working Design assumption is that the Design Artefacts can be consumed 'as is' by experienced industry technical personnel. Those who are less experienced will require playback support post M5.

1.8. Marked as 'gaining confidence' until a secondary review of the requirements is completed to confirm design related testing requirements, such as time-shifting, have been incorporated.

1.9. Marked as 'gaining confidence' until the conclusion of the definition of non-functional specifications and Service Level Agreements (SLA) in Tranche 4.

1.10. Marked as 'gaining confidence' until the conclusion of the definition of non-functional specifications and SLA's in Tranche 4.

Confident
Gaining confidence
Losing confidence
Not confident

1.3 Success criteria 2 - Consultation

The SRO will ensure that decisions are taken in a timely way, whilst ensuring that appropriate consultation of all Programme parties is carried out at all stages.

ID	M5 Success criteria	Confidence
2.1	The project mechanisms were sufficient for Industry Consultation (e.g. DAG and the sub Working Groups) and for providing sufficient input and challenge on the design	Confident
2.2	The Programme Participants sufficiently engaged in the design process to support a robust end-to-end design	Gaining confidence
2.3	The design milestones were consistent with other Programme milestones	Confident

Comment

2.2. Marked as 'gaining confidence' due to the varying expectations of what constitutes '**appropriate** consultation'.

As a possible benchmark, the following relates to industry engagement in the earlier MHHS phases:

- Consultation on MHHS TOM - 25 organisations
- Consultation on AWG recommendations - 21 organisations
- Consultation on MHHS Transition - 21 organisations

The Programme has facilitated 69 Working Group and sub-Working Group meetings since November 2021 (chart 3), which have been attended by 260 people representing 60 organisations (chart 20,21), with an average of 28 participant attendees attending each meeting (chart 4).

A member from every constituency, except small suppliers, has attended a BPRWG and TDWG meeting (chart 1), and the breakdown of attendance at the sub-working groups can be found in chart 2.

The % attendance per meeting by organisation can be found in charts 17-19. The Programme has strived to create sufficient opportunities for Participants to engage but has limited control of the level of engagement by attendees in the meetings. For those Participants who prefer to not engage in the meetings, the Design Artefact review cycles provided the opportunity for Participants (and their partners) to review and provide written comments on Artefacts outside of the Working Group meetings.

The review cycles for Tranche 1 and 2 attracted 1400 comments from 18 and 15 organisations respectively (chart 22-24). Tranche 2 is currently in the Assurance review cycle and additional comments are anticipated.

Note – Attendance data as of 3 May 2022

Confident
Gaining confidence
Losing confidence
Not confident

1.4 Success criteria 3 - Consensus

The SRO should aim for consensus wherever possible and seek to take into account the interests of all Programme parties and consumers.

ID	M5 Success criteria	Confidence
3.1	Sufficient time was provided for industry engagement to resolve open design decisions	Confident
3.2	Non-consensus was managed fairly, constructively and transparently	Gaining confidence
3.3	DAG approved the design (final baseline decision)	Gaining confidence

Comment

3.2. Marked as 'gaining confidence' due to the complexity in proving that consensus has been managed, particularly in an industry-wide programme where private organisations have their own business objectives and shareholder obligations.

There has been healthy debate in the Working Groups and Sub-Working Groups, often resulting in lengthy and reoccurring discussions on the same topic, both of which impact timelines. When consensus cannot be reached, the Programme makes a decision considering all the information. Should Participants disagree with a decision, they have the opportunity to record their disagreement during the Artefact review process (this is when the Artefacts are issued for industry review).

At the end of the review cycle the Programme records a response to the comments received. The responses are recorded on the Comments Log and is accessible to all respondents. Should Participants not agree with the Programme's responses, they are invited to attend a specific Working Group to discuss the comment responses. On the rare occasion that consensus is still not achieved, the Participants have the opportunity to escalate the matter to DAG for decision. In the event that DAG cannot reach consensus, the DAG chairperson will make a decision, justifying and recording the reason for the decision. The DAG minutes are saved on the MHHSP website and in the public domain, and as a final fail-safe, PSG would have the opportunity to raise the issue and manage its resolution as per the PSG Terms of Reference.

3.3. Marked as 'gaining confidence' due to the lessons learnt from gaining conditional approval from DAG for Tranche 1. DAG requested that going forward, the Programme provides a clearer plan and reporting for the resolving of the open design issues. These recommendations are currently being implemented by the Programme.

Confident
Gaining confidence
Losing confidence
Not confident

1.5 Success criteria 4 – LDP SI Assurance

The LDP SI will assure that all necessary Design Artefacts were complete and sufficient to enable all parties to detailed design, build and test their systems ahead of integration or user testing.

ID	M5 Success criteria	Confidence	Comment
4.1	The SI assured that all necessary Design Artefacts were complete and sufficient to enable all parties to detailed design, build and test their systems ahead of integration or user testing.	Gaining confidence	**4.1.** The LDP SI Design Assurance Team have reviewed the Tranche 1 and 2 Artefacts as part of its quality assurance activities and have identified no substantive design gaps or concerns. As part of the SI assurance, the SI have captured a number of non-substantive assurance issues (BPM convention, language). The confidence indicator has been marked as 'gaining confidence' whilst the Programme implements measures to avoid these issues going forward, and resolve these issues identified in Tranche 1 and 2. **4.2.** The post M5 plan will be presented to DAG in June 2022, and then the PSG. This has been marked as 'gaining confidence' whilst the Programme awaits DAG feedback.
4.2	The next steps (e.g. post Design baseline awareness sessions, other Programme activities, replan etc.) post M5 were agreed, communicated and understood by Programme parties	Gaining confidence	

Confident
Gaining confidence
Losing confidence
Not confident

1.6 Success criteria 5 – Code drafting

The Design will be appropriately defined to allow Code drafting to reflect the design without further design debate or further clarifications

ID	M5 Success criteria	Confidence
5.1	The Design is defined appropriately to allow Code drafting to reflect the Design without further design debate or further clarification	Gaining confidence
5.2	There is an agreed approach to Code drafting that is driven by the Design	Gaining confidence
5.3	Impacted Code Bodies' resources are available and plans agreed to draft changes following completion of the Design	Gaining confidence

Comment

5.1. Marked as 'gaining confidence' whilst the CCAG and DAG review and agree the code drafting principles that were issued by CCAG to DAG for review on 11 May 2022. In addition, a subset of Design Artefacts are being reviewed to assess completeness for code drafting. The outcomes of this exercise will inform the confidence level.

5.2 An exercise to test different approaches to Code drafting using the design baseline is also under development, reflecting the principle that the design drives the Codes. The outcomes of this exercise will inform the confidence level of the Design repository for Code drafting model.

5.3. With regards to supporting the transition from Design development to Code drafting, the market architect resources who have been embedded in the Design team will be allocated to support the code drafting once the Design is baselined (carrying across their knowledge of the design and also acknowledging that they are code drafting subject matter experts).

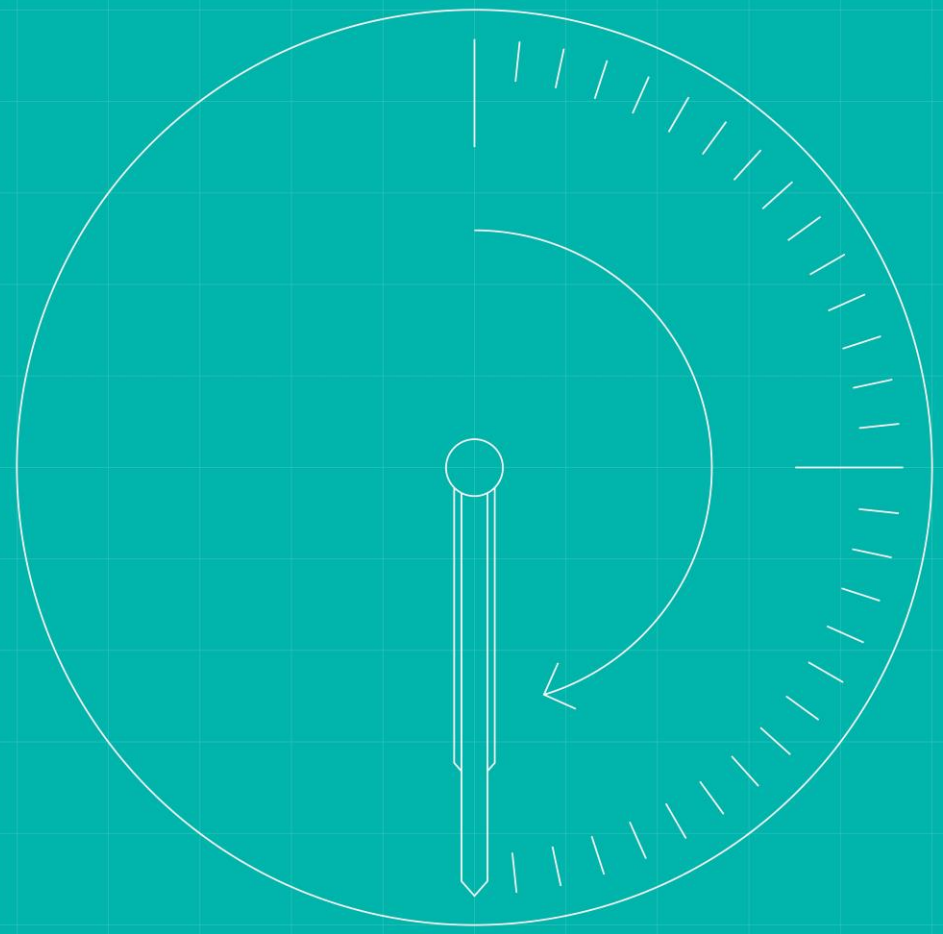
Discussions are ongoing with different Code Bodies on the planning and resourcing of MHHS Code changes.

1.7 Target stakeholder outcomes

	PRE M5	POST M5
DAG	1. We believe the Design meets the TOM requirements 2. We believe the Design meets the agreed design principles 3. We believe the Design is complete and sufficient to enable participants to commence their own detailed design, and that the SI have appropriately assured it 4. We believe all open material design issues have been resolved, and any residual issues and work-off plans are agreed 5. We believe the change request process and the SI facilitation thereof is appropriate 6. We believe the Design is defined appropriately to allow Code drafting to reflect the design without further design debate or further clarifications	1. We have sight of all Design Change Requests and are the primary decision making body for making recommendations for approving or rejecting design changes 2. We are satisfied that the Design Artefacts are being maintained 3. We have the ability to constitute sub-Working Groups to consider and develop change in response to change requests
Participants	1. I have had the opportunity to engage in the development and review of the Design Artefacts 2. My contributions have been used or I have received reasonable justification as to why not 3. I know what to expect post M5 4. As an experienced industry technical person, I believe the Design Artefacts can be used to commence my detailed design activities and any associated sourcing of software and services	1. I can access the Design Artefacts 2. I have access to the SI and Design SME's to help me understand the Design 3. I have visibility of Change Requests and the impact on the Design Artefacts 4. I can raise Change Requests and they are considered and actioned as appropriate 5. I can commence my detailed design activities and any associated sourcing of software and services
CCAG	1. We have been kept updated of Design progress to enable the code resource plan to be developed 2. We believe the Design is defined appropriately to allow Code drafting to reflect the design without further design debate or further clarifications	1. We can draft code changes using the Design 2. We have sight of Design Change Requests and can manage the impact on the codes

Section 2

Supporting information



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3.1 Working Group engagement

As at 3 May 2022, there have been 16 Working Group meetings

BPRWG Business Process Requirements Working Group
- 5 meetings, attended by 37 organisations

TDWG Technical Design Working Group
- 5 meetings, attended by 32 organisations

SDWG Security Design Working Group
- 6 meetings, attended by 14 organisations

A member from every constituency, except small suppliers, has attended a BPRWG and TDWG meeting

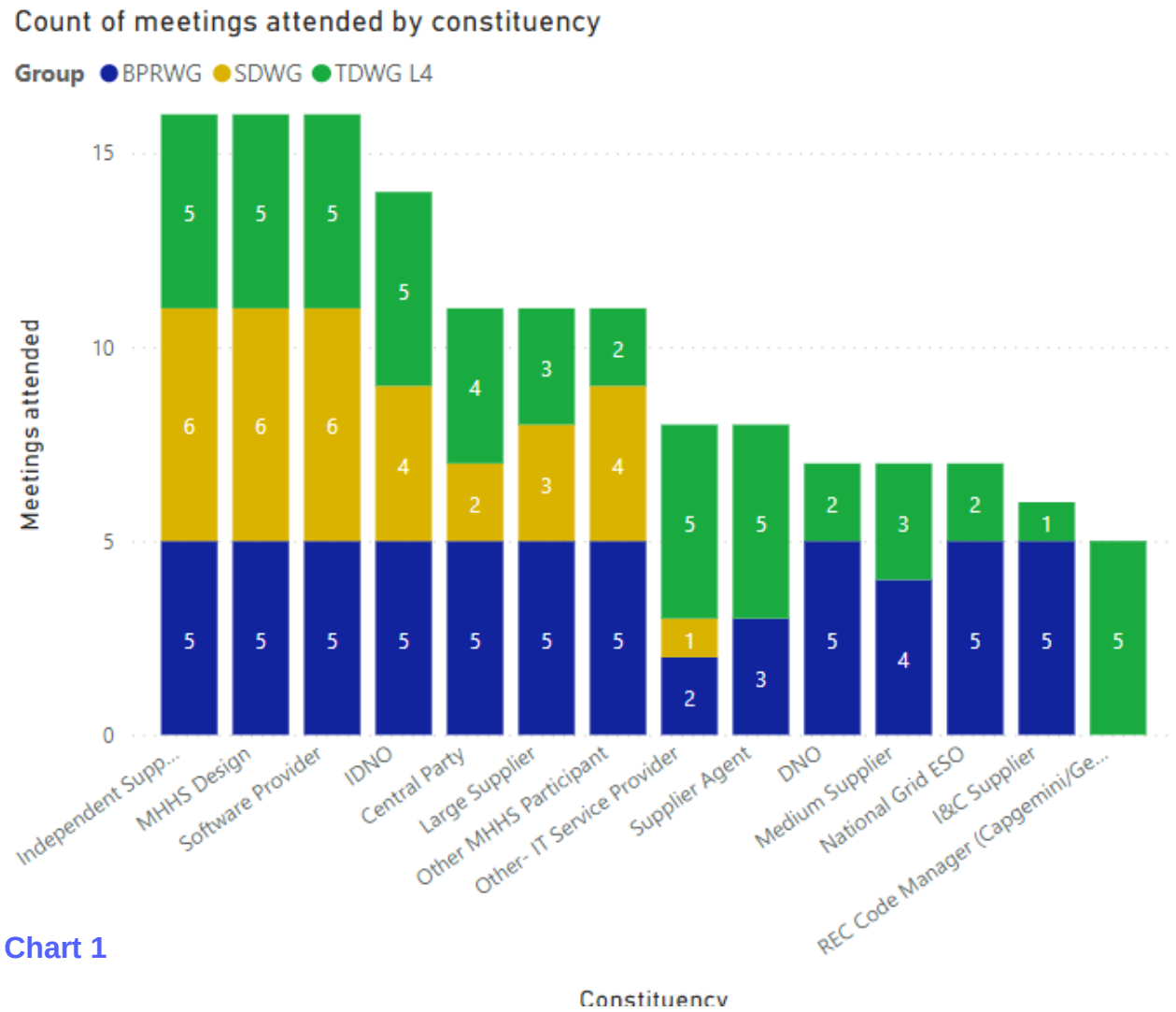


Chart 1

3.2 Sub-Working Group engagement

As at 3 May 2022, there have been 53 sub-Working Group meetings

TDWG-L4	13 meetings, 31 organisations
Smart	6 meetings, 25 organisations
Registration	9 meetings, 41 organisations
ECS	16 meetings, 28 organisations
Advanced	3 meetings, 22 organisations
Unmetered	3 meetings, 16 organisations
Metering serv	1 meetings, 20 organisations
Settlement	1 meetings, 33 organisations
Related MPANS	1 meetings, 31 organisations

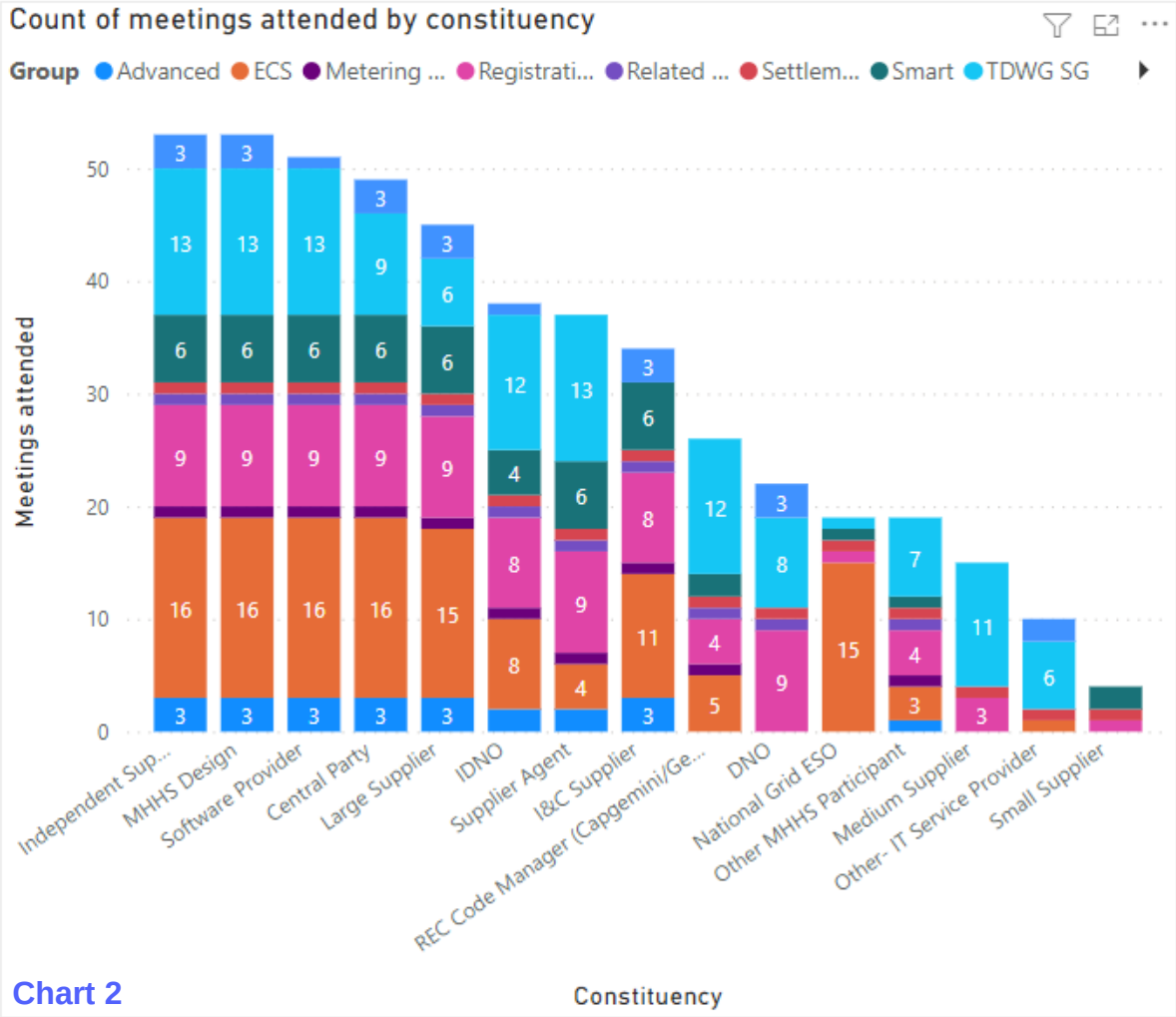


Chart 2

3.3 Meeting frequency and attendance

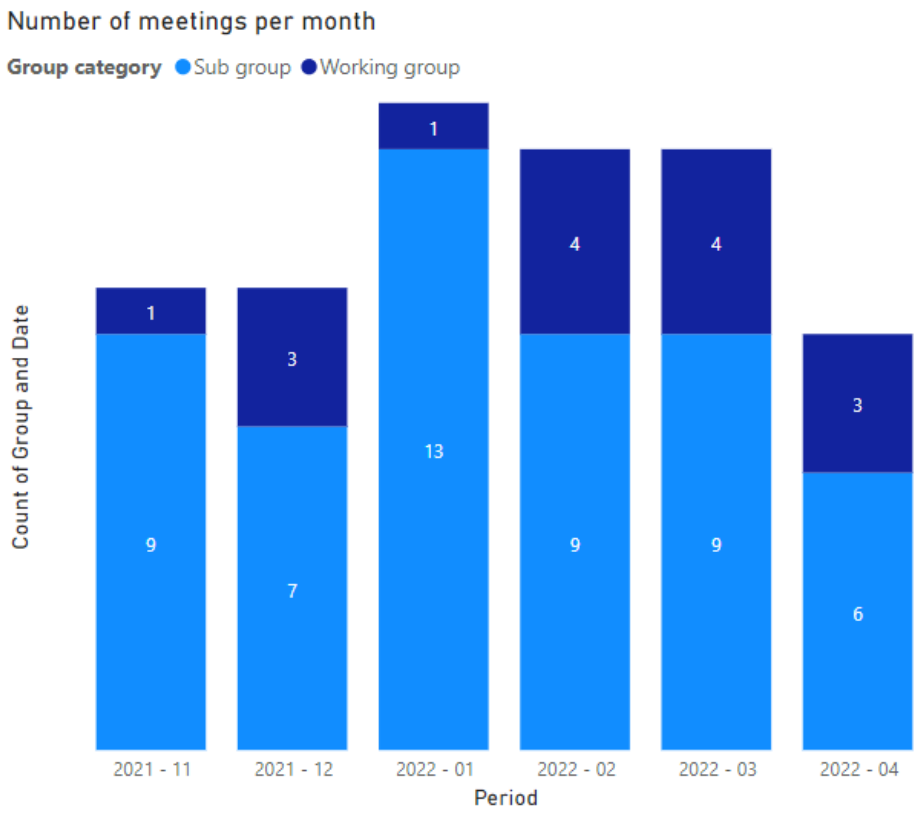


Chart 3

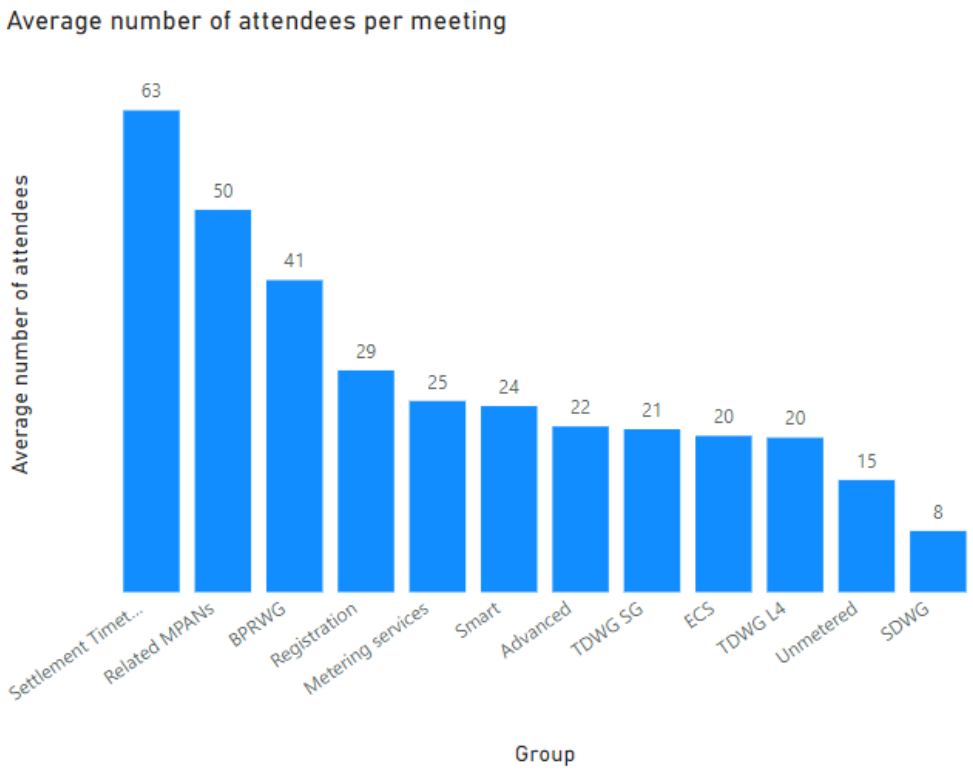


Chart 4

This chart reports on Participant attendees only. i.e. Does not include MHHS Design or LDP attendees.

Attendance at BPRWG

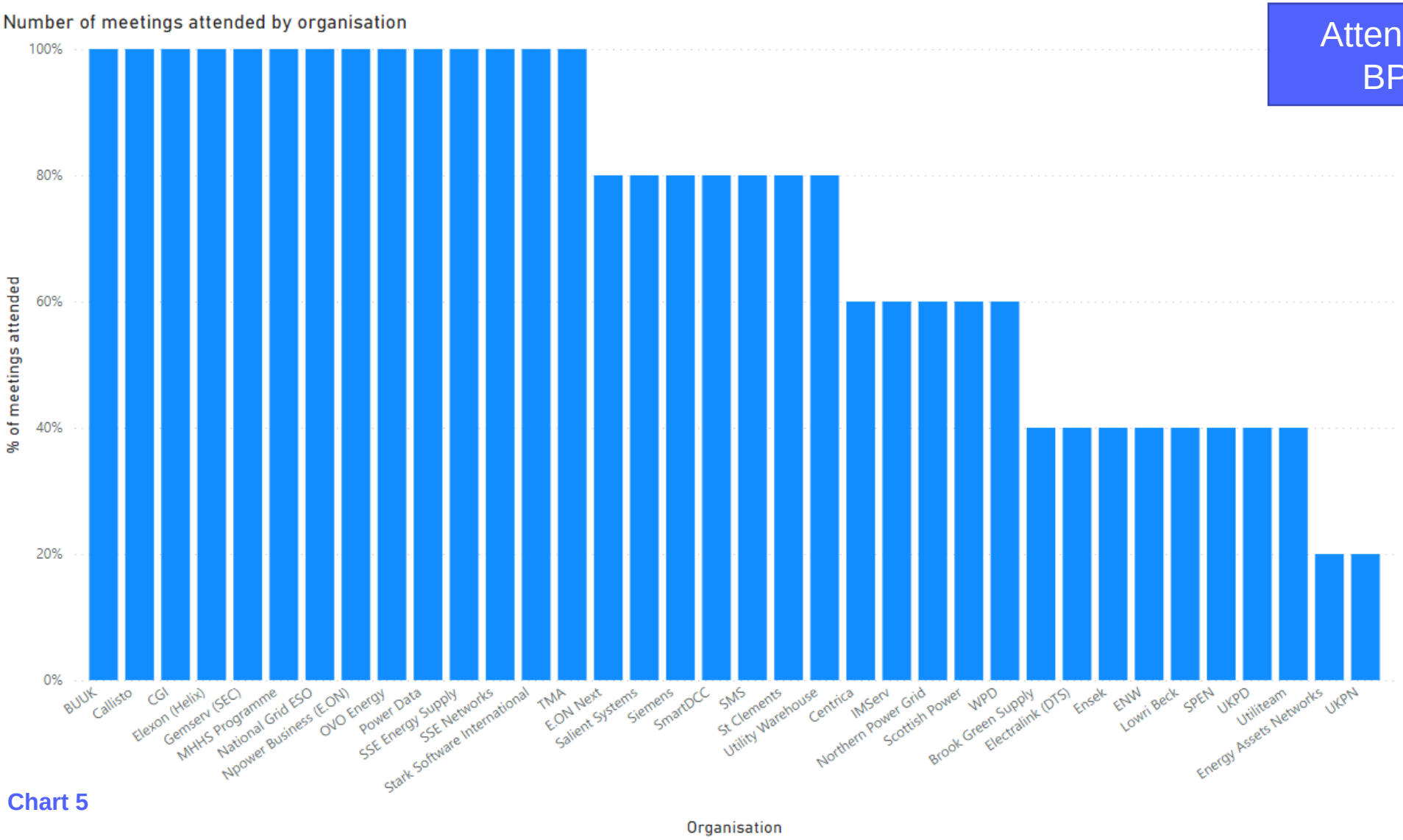


Chart 5

Attendance at TDWG

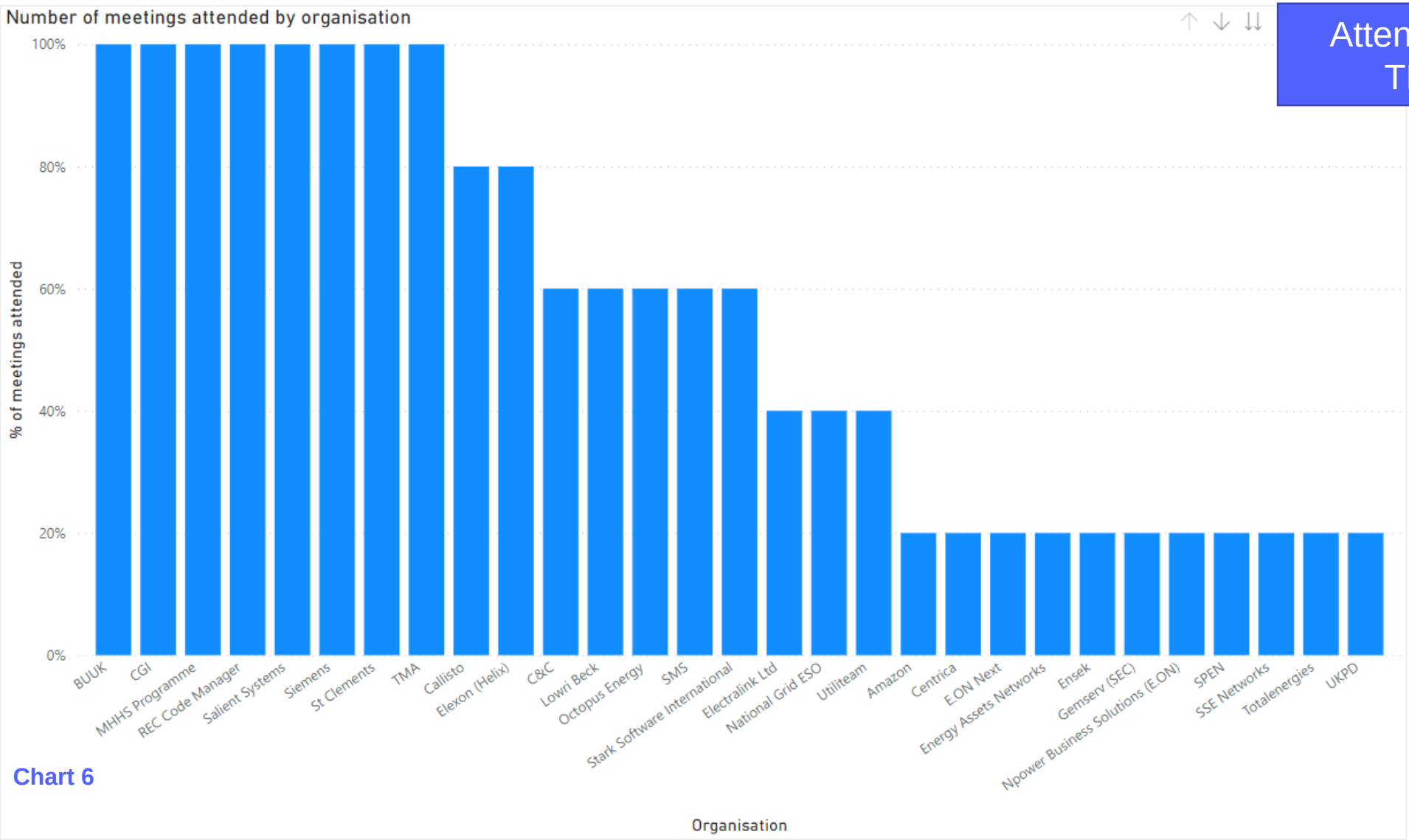


Chart 6

Attendance at SDWG

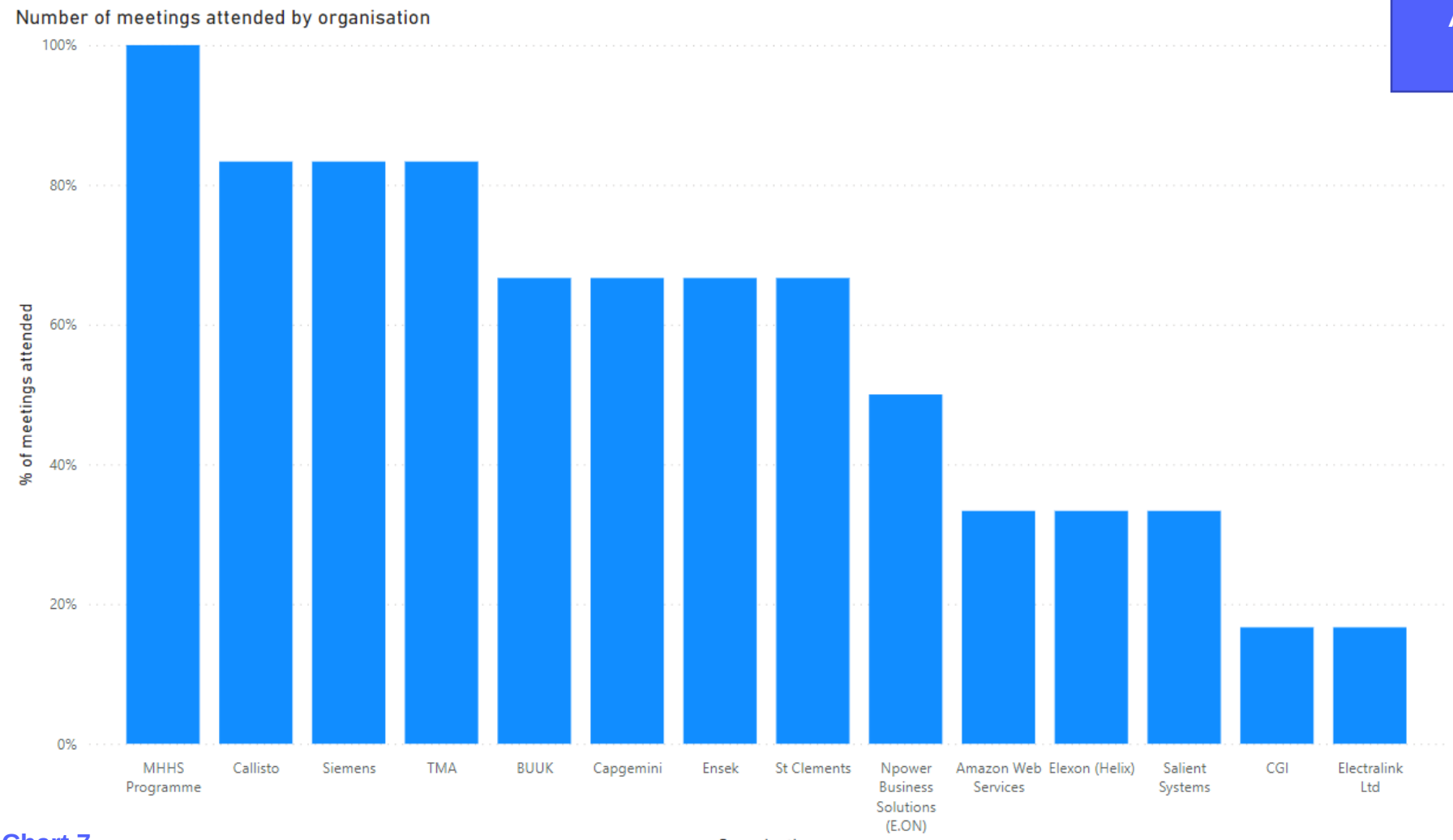


Chart 7

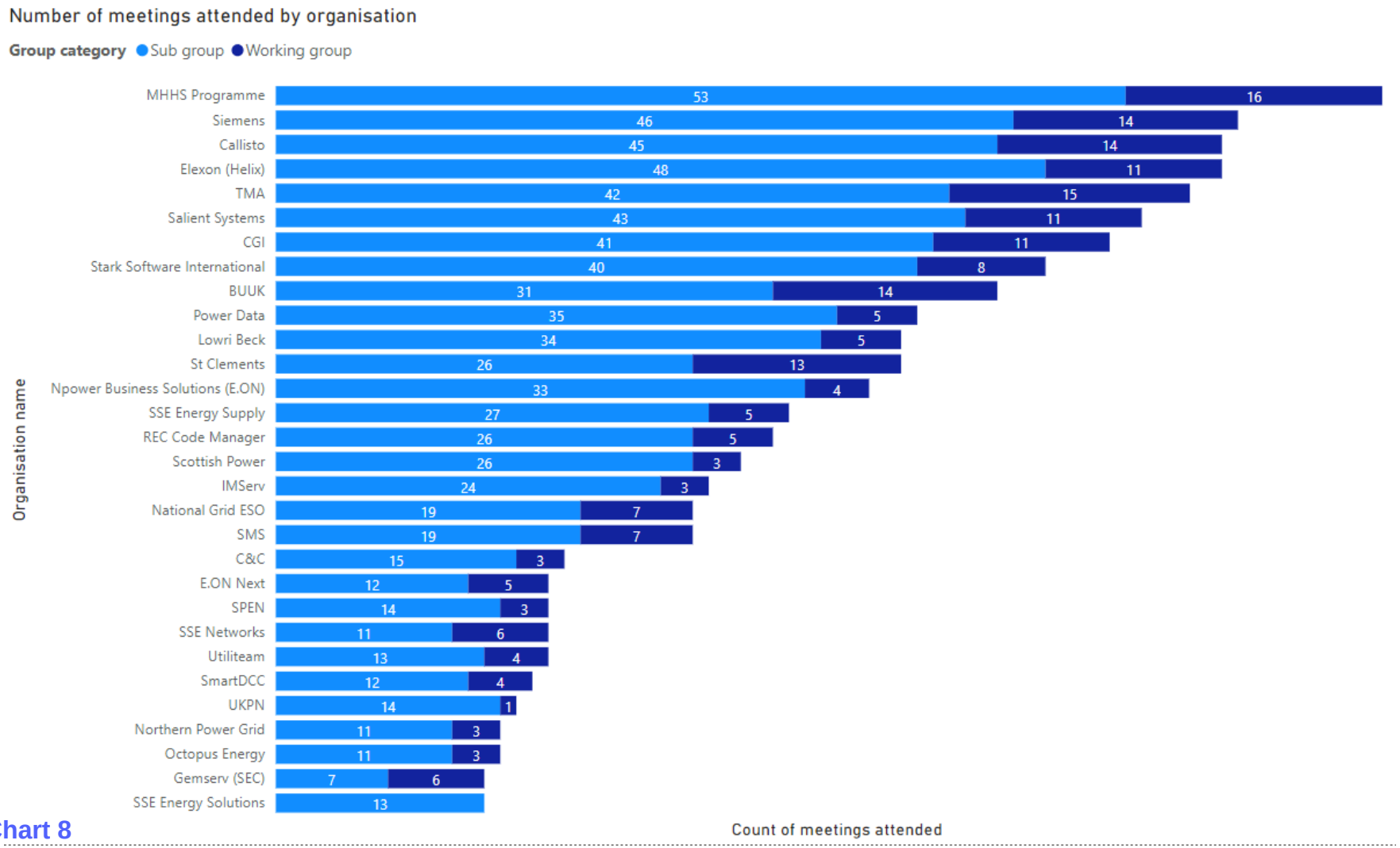

Number of meetings attended by organisation
Group category
Sub group
Working group
Organisation name
MHHS Programme 53 16
Siemens 46 14
Callisto 45 14
Elexon (Helix) 48 11
TMA 42 15
Salient Systems 43 11
CGI 41 11
Stark Software International 40 8
BUUK 31 14
Power Data 35 5
Lowri Beck 34 5
St Clements 26 13
Npower Business Solutions (E.ON) 33 4
SSE Energy Supply 27 5
REC Code Manager 26 5
Scottish Power 26 3
IMServ 24 3
National Grid ESO 19 7
SMS 19 7
C&C 15 3
E.ON Next 12 5
SPEN 14 3
SSE Networks 11 6
Utiliteam 13 4
SmartDCC 12 4
UKPN 14 1
Northern Power Grid 11 3
Octopus Energy 11 3
Gemserv (SEC) 7 6
SSE Energy Solutions 13
Count of meetings attended

Chart 8

3.4 Participant attendance – All Working Groups (part 2)

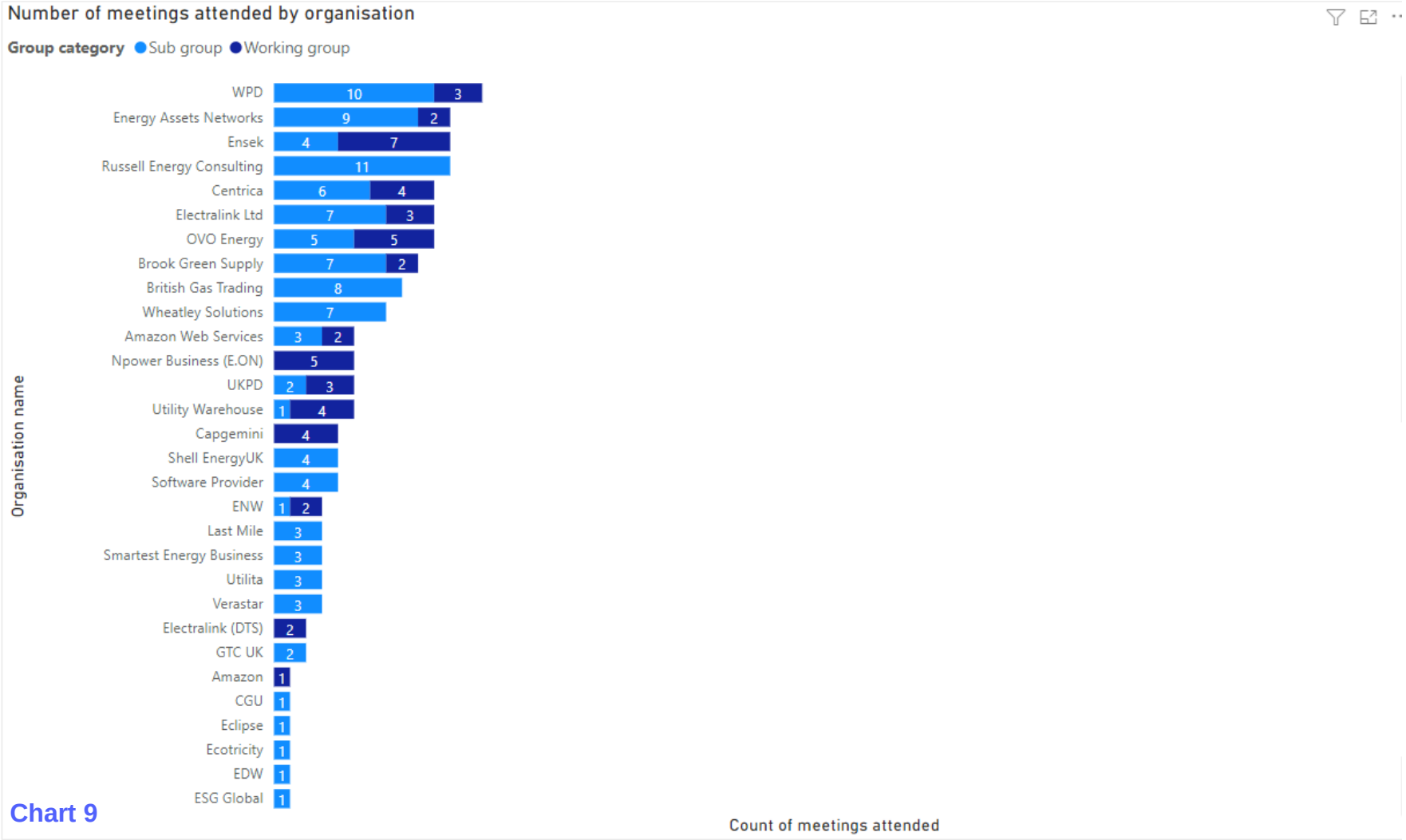


Chart 9

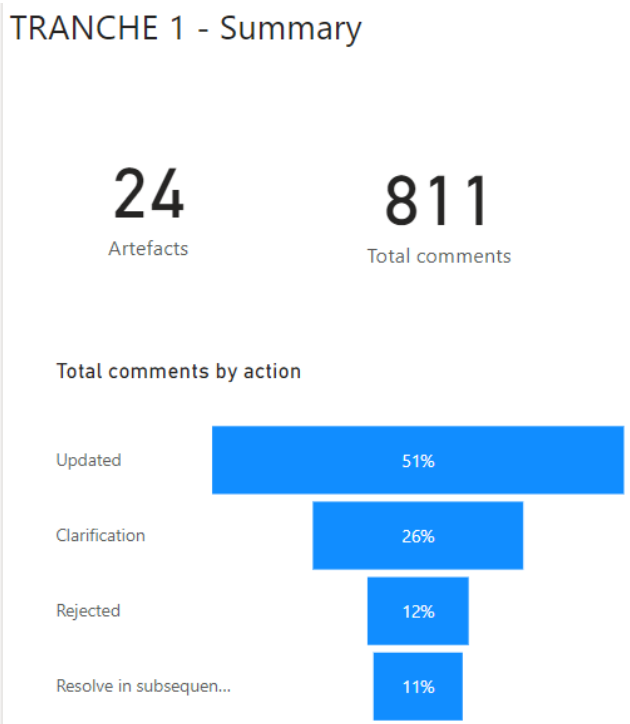


Chart 10

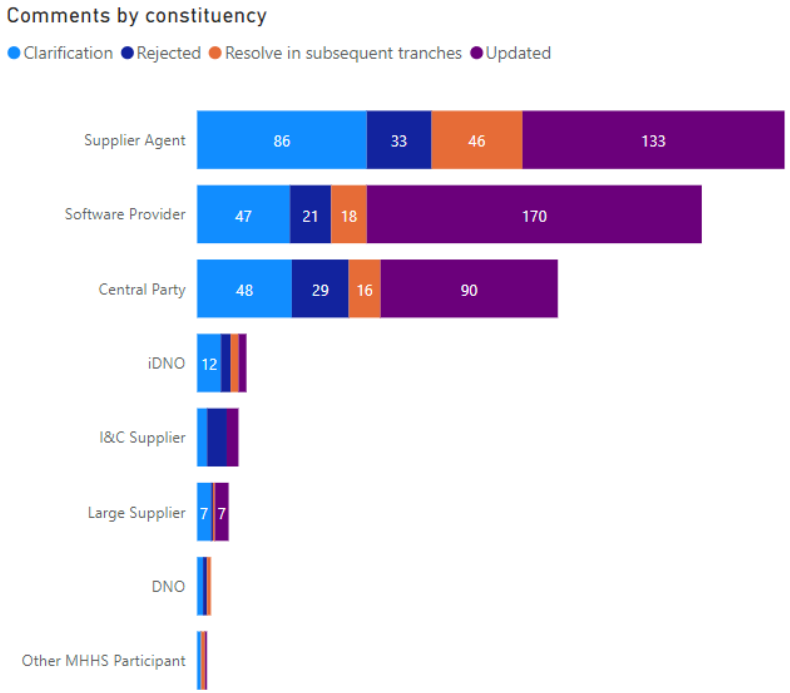


Chart 11

811 comments from 18 organisations

- 51% of comments resulted in minor changes to documents
- 26% of comments were requests for clarification
- 12% of comments were rejected for various reasons. Explanations for the rejections were shared with the comment owners
- 5% of the comments have resulted in further activity to modify or validate elements of the Design. The next steps for these items have been recorded in the Open Design Issues Log. No substantial Design changes are expected
- A further 5% of comments directly relate to Artefacts that are being produced in subsequent tranches

Note:

1) The data does not account for duplicate responses. As noted by Participants in the BPRWG, many Participants did not record comments to specific points if others had already expressed similar views.

TRANCHE 2 - Summary

17
Artefacts

622
Total comments

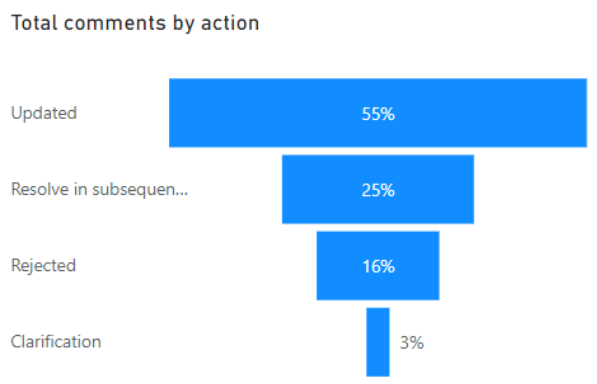


Chart 12

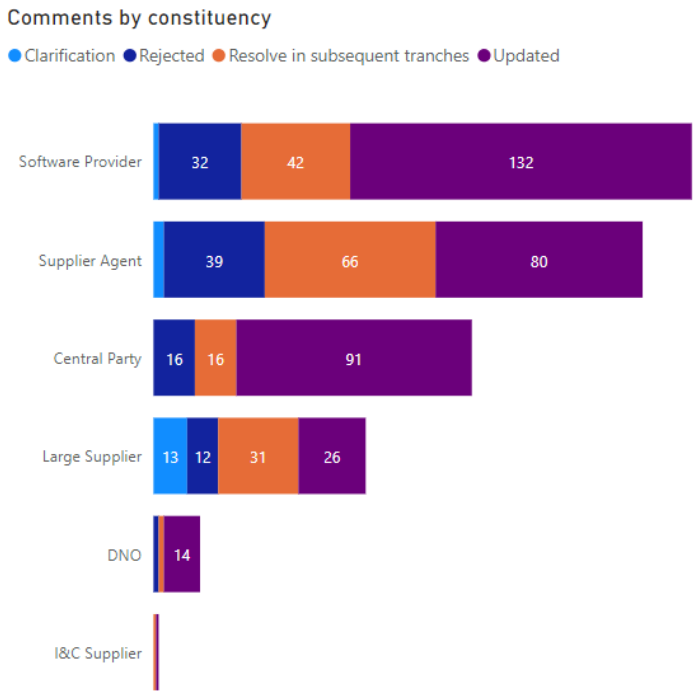


Chart 13

622 comments received from 15 organisations

- 55% of comments resulted in minor changes to documents
- 3% of comments were requests for clarification
- 16% of comments were rejected for various reasons. Explanations for the rejections were shared with the comment owners
- 10% of the comments have resulted in further activity to modify or validate elements of the design. The next steps for these items have been recorded in the Open Design Issues Log. No substantial Design changes are expected
- 16% of comments relate to Artefacts that are being produced in subsequent tranches

Note:

1) The data excludes the comments received for 11 Interface Artefacts that were issued as supporting information. These Artefacts will be issued for formal review in T4

2) The data does not account for duplicate responses. As noted by Participants in the BPRWG, many Participants did not record comments to specific points if others had already expressed similar views

3) Tranche 2 is commencing Assurance review and additional comments are anticipated

3.7 Participant engagement with Artefact reviews

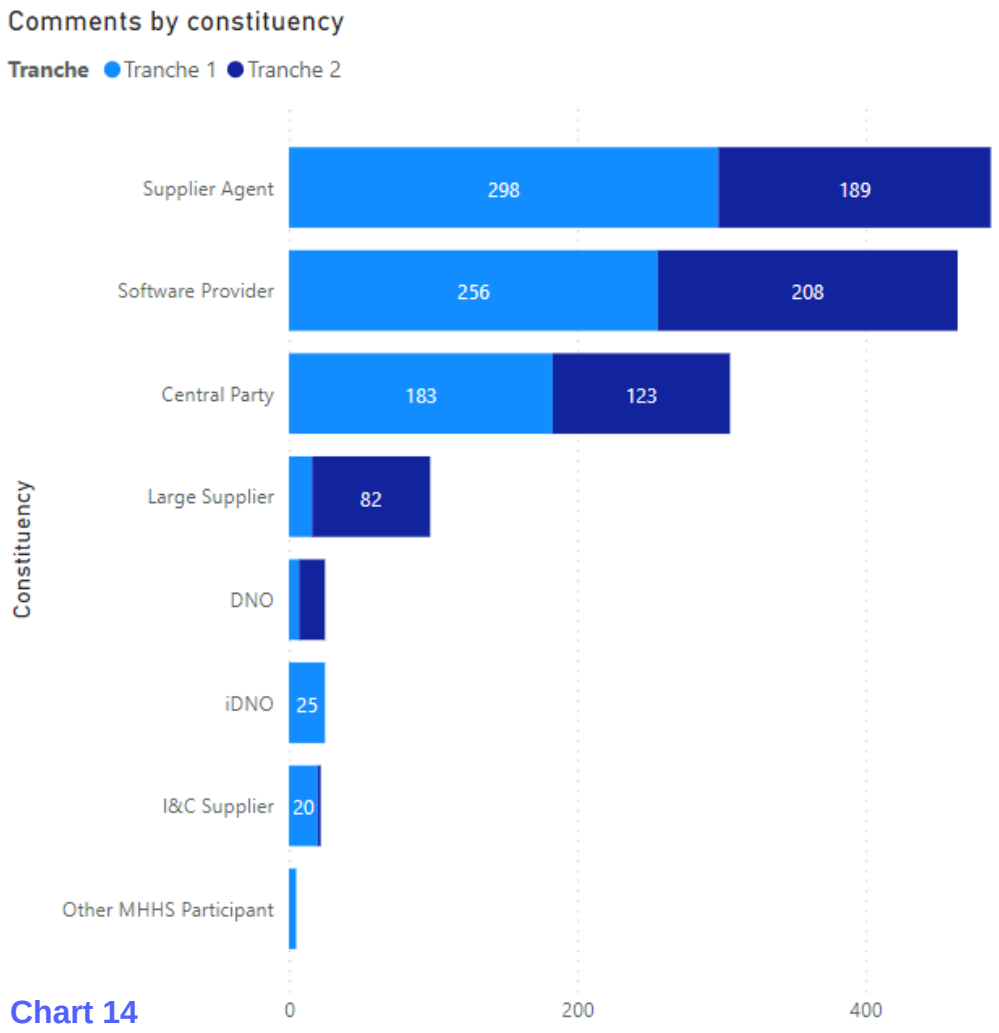


Chart 14

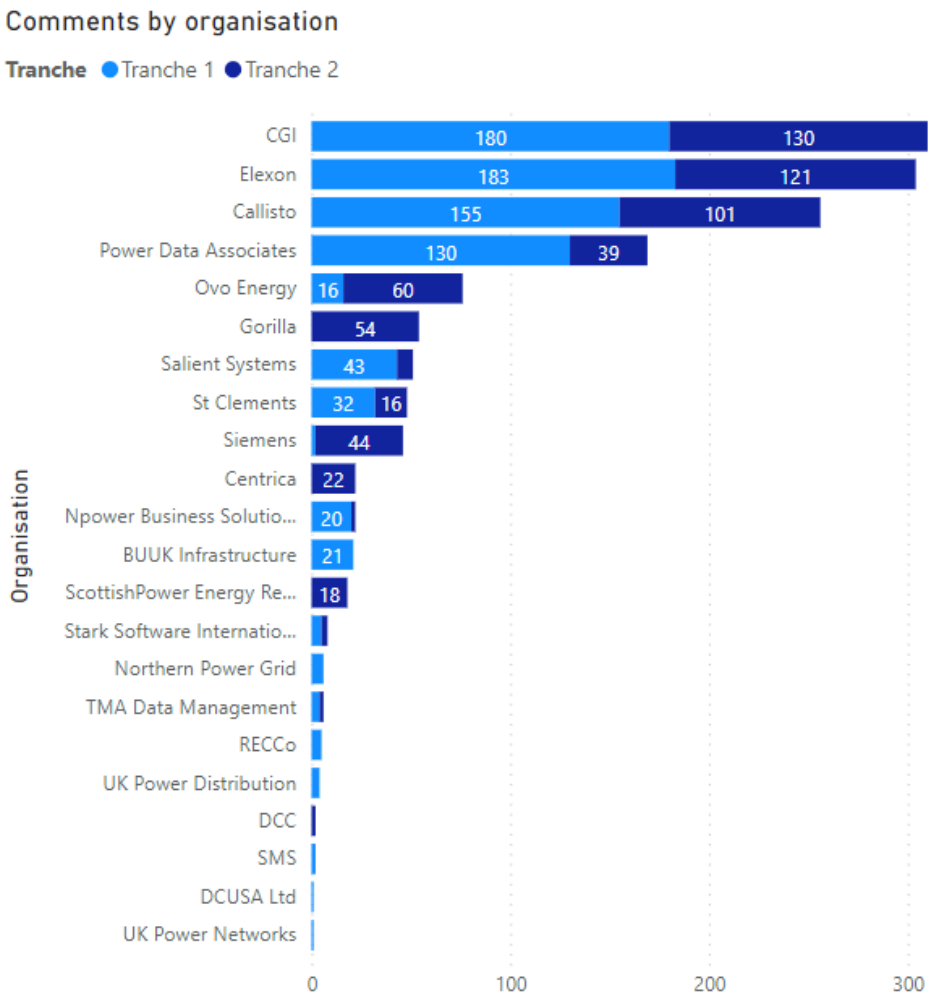


Chart 15

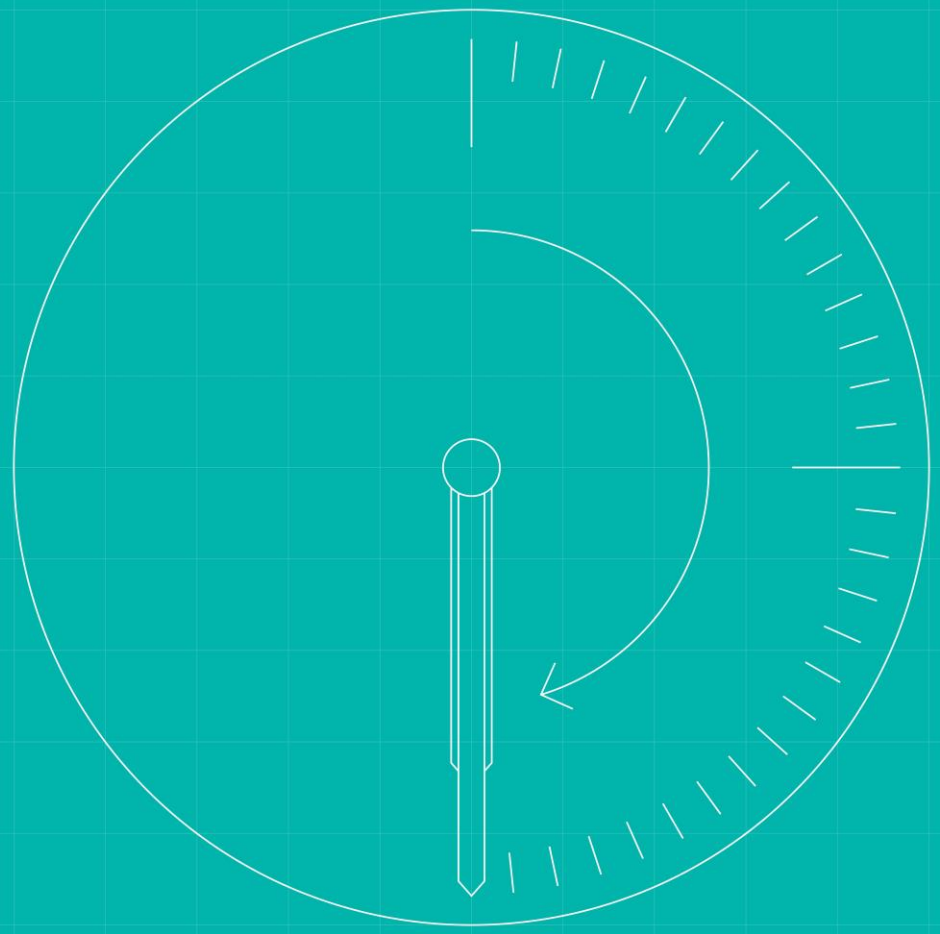
3.8 DAG approval

Artefact	Count	Conditional approval	Baselined
Business Process Description	27	1	
Business Process Diagram	26	8	
Business Process List	1		
Business Requirements	16	1	
Data Catalogue	1		
Entity Map	1		
Interface List	1		
Interface Specification	37	13	
Logical Data Model	1		
Method Statement	9	1	
Operational Choreography	1		
Technical Artefact	1		
Transition	1		
	123	**24**	

Issues	Open	Closed
Design issues	17	0
Design dependencies	13	0

This table reports on the status of the conditions related to the conditional approval of Artefacts by DAG.

THANK YOU



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