NEM five-minute settlement and global settlement

Interim industry readiness reporting: Round #2 results - FINAL

A progress report for the 5MS/GS Readiness Working Group

15 October 2019

Table of Contents

1. Background and context

Interim readiness reporting – Background

- Prior to formal readiness reporting commencing in February 2019, NEM participants, through the 5MS/GS Program Consultative Forum (PCF), requested AEMO to establish *interim* readiness reporting to establish a baseline of participant preparedness.
- Interim readiness reporting focuses on the level of establishment of respondent implementation projects. Subsequent, readiness reporting will focus on the progress of these projects.
- AEMO collated participant information through voluntary surveys, and reported anonymised survey findings at an aggregate level to the Readiness Working Group (RWG), PCF and also the Executive Forum.
- This progress report will be published on AEMO's website.

Interim readiness reporting – Context

This progress report:

- Presents key findings and considerations or recommendations developed after an analysis of responses to a 5MS/GS readiness survey of RWG members (including NEM registered participants and metering service providers).
- Relies entirely on the information provided by the responding participants in this initial survey, as at September 2019.
- Provides a generalised snapshot of the declared readiness of those respondents as at the survey date only, and may not be indicative of industry preparedness generally.

Interim readiness reporting – Key Dates

Below are the survey dates for interim readiness reporting. Note that that survey dates for round 3 of interim reporting has been revised.

Table 1: Interim Readiness Reporting – Survey dates

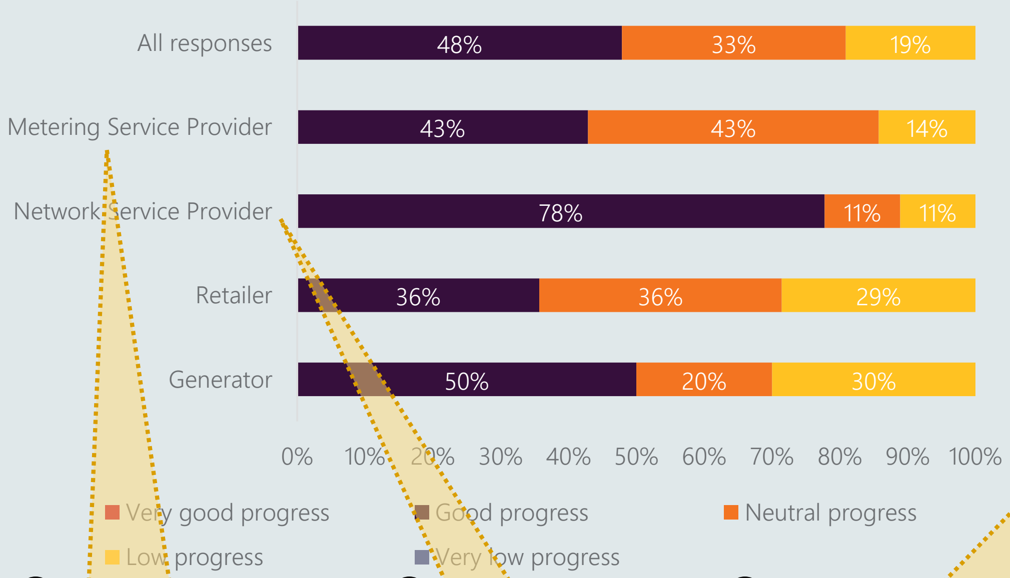
Interim reporting	Survey released	Responses due	Results distributed	Discuss at RWG meeting
Round #1	Thu, 18 Jul	Wed, 31 Jul	Tue, 6 Aug	Tue, 6 Aug / Tue, 27 Aug
Round #2	Mon, 2 Sep	Fri, 13 Sep	Mon, 23 Sep	Tue, 24 Sep
Round #3	Mon, 4 Nov	Wed, 20 Nov (prev. 15 Nov)	Tue, 3 Dec (prev. 26 Nov)	Tue, 10 Dec (prev. 28 Nov)

New dates for round #3 of Interim Readiness Reporting align with PCF and RWG December meeting dates.

Guide to Interpreting graphs in this report (1)

1 This graph presents the **spread of responses for this question**, from the **most current survey**.

Figure (i): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:

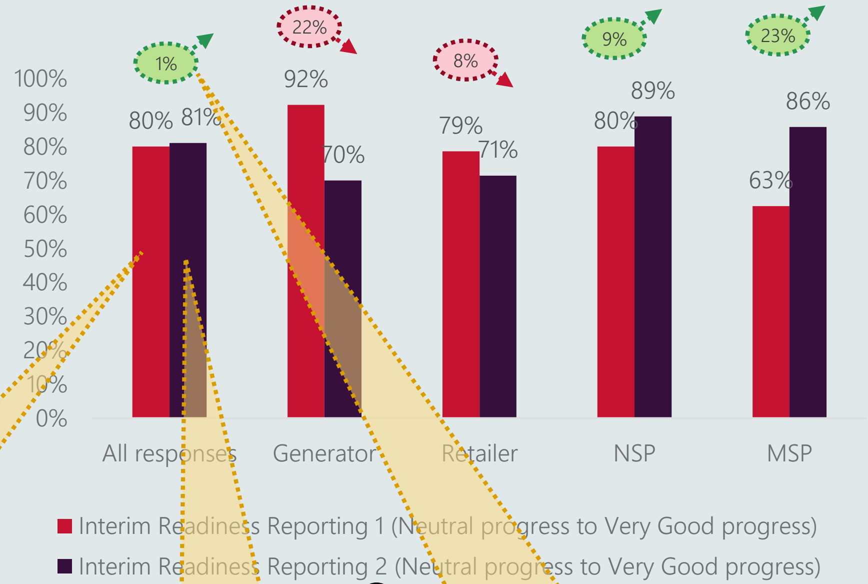


2 This bar shows the consolidated responses of all participant types

3 This bar shows the consolidated responses of all Metering Service Providers

4 This graph presents the **trend or progression of responses** for this question by **comparing results of this survey with previous surveys**.

Figure (ii): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:



5 The red column shows the proportion of respondents that responded with a Neutral or above response for this question, in the first survey

6 The purple column shows the proportion of respondents that responded with a Neutral or above response for this question, in the second survey

7 This number represents the change in proportion of respondents that responded with a Neutral or above response between surveys. A positive number indicates progress.

Less positive/progressive response example		Neutral response example		More positive/progressive response example
1. Very low progress	2. Low progress	3) Neutral progress	4) Good progress	5) Very good progress
1. Not at all familiar	2. Not so familiar	3) Somewhat familiar	4) Very familiar	5) Extremely familiar
1. Not at all	2. To a limited extent	3) Somewhat considered	4) Reasonably considered	5) Fully considered

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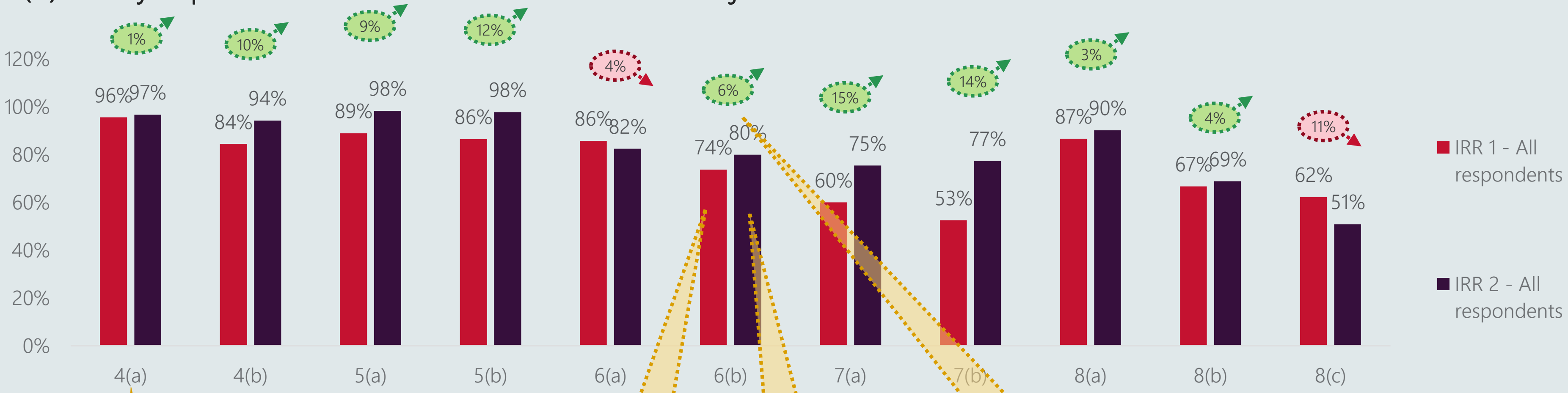
Guide to Interpreting graphs in this report (2)

1

This graph presents the **general trend or progression for a collection of questions** between surveys. The figure below compares the proportion of respondents that responded with either a Neutral or higher response for project establishment questions.

Figure (iii): Survey response variances between IRR 1 and IRR 2 – Project establishment



#	Question
4	For your organisation, what is the Executive Management's level of understanding of the scope of change required under:
4(a)	5 Minute Settlement
4(b)	Global Settlement
5	Has funding for implementation activities been considered by your organisation for:
5(a)	5 Minute Settlement
5(b)	Global Settlement
6	To what extent have the identified funding requirements been incorporated into funding cycles for:
6(a)	5 Minute Settlement
6(b)	Global Settlement

#	Question
7	To what extent has a project plan been developed by you organisation for:
7(a)	5 Minute Settlement
7(b)	Global Settlement
8	In relation to Project Establishment, to what extent:
8(a)	has management ownership for the project delivery been established?
8(b)	has a resourced project team been established and in place to deliver the identified scope?
8(c)	has the project schedule been established with status management in place?

2

These columns refers to a specific question in the survey. The first two columns correspond to question 4(a). The question wording can be found in the table above.

3

Red columns show the proportion of respondents that responded with a Neutral or above response for this question, in the first survey

4

Purple columns show the proportion of respondents that responded with a Neutral or above response for this question, in the second survey

5

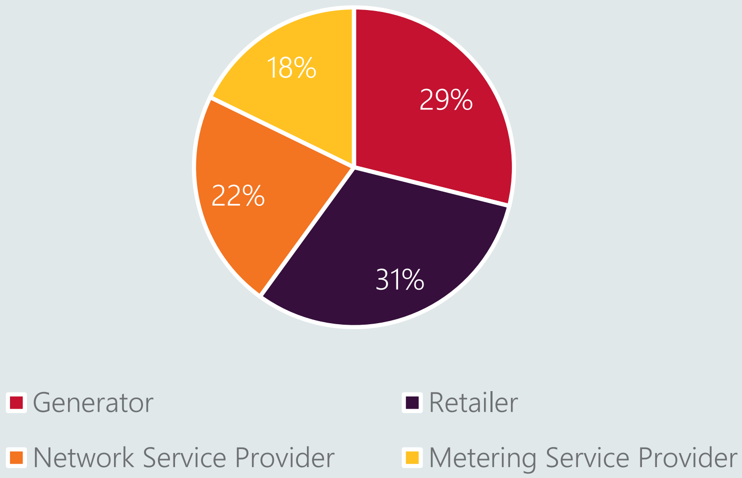
This number represents the change in proportion of respondents that responded with a Neutral or above response between surveys. A positive number indicates progress.

2. Key findings

Interim readiness reporting - Round #2

- A total of 29 (down from 33) unique organisations responded to the second survey, representing a response rate of 66%. Some organisations responded with multiple submissions to represent different participant types.
- There were five new organisations in the second survey. Nine organisations in the first survey did not respond in the second survey.
- MSPs and NSPs were asked to provide more detail on their respective participant types (e.g. MSPs to nominate as MC, MDP, MP) in this survey. However there was little differentiation in the provided survey responses among the more detailed participant category types. Hence, survey results are presented in aggregate at the MSP and NSP level for simplicity.

Figure 1: Interim Readiness Reporting – Participant respondent type (%)



Observations:

- There was a slight decrease in response rate between the first and second survey, with nine organisations (mainly retailers) that responded to the first survey not responding again in the second survey.
- Responses were received from an even mix of participant types, with generators, retailers, NSPs and MSPs each representing approximately a quarter of total responses.
- Based on the response rate and mix of respondents, the survey responses represents a reasonable cross-section of the industry

Key findings (1)

- The key findings from the previous survey remain consistent in this survey, with this round of survey results reflecting a general level of progress since July.
- Risks raised in the survey are consistent with the identified risks in previous survey.
- MSPs have made notable progress between the two surveys, and made the most progress among all participant types.
- Most participants have commenced activities to establish 5MS & GS programs, however few have well established programs.
  - Strong management awareness of 5MS / GS requirements, with understanding of GS requirements increasing over time
  - Almost all respondents are in the early stages of developing project plans and mobilising resources
  - All respondents have commenced considering funding for their respective programs. However only a handful have fully considered funding.
- 5MS programs are further advanced relative to GS.
  - Almost all participants have at least a small degree of overlap between their GS and 5MS IT program; half of respondents have fully integrated programs; and retailers are least likely to have combined programs

Key findings (2)

- Most respondents have commenced engagement with vendors, this however this engagement is in its early stages. The most frequently listed vendors were Energy One, Oracle, Itron and Brave Energy.
- A proportion of generators are responding that GS is not relevant to their organisation, however more than half are still responding to GS questions.
- Majority of respondents intend to participate in industry testing and market trials for 5MS, with half of respondents feeling that they will be very prepared.
- Less than half of respondents intend to participate in testing for GS settlement and UFE publication. A similar proportion have not decided if they will participate in GS settlement and UFE publication testing.
- Majority of respondents have commenced impact assessments on market procedures, commercial operations and agreements, internal business processes and standing data/meter transition. There has been the most progress in performing impact assessments for standing data/meter transition, and the least progress in assessing impacts to commercial operations and agreements.

Key risks

The key risks raised in this survey were consistent with the risks identified in the previous survey, as listed below:

- Internal resourcing and systems
  - Availability and capacity of internal resources
  - Complexity of upgrading systems
  - Ability to secure resources to complete program implementation
- AEMO Procedures and Technical Specifications delivery
  - Challenges to progressing without final documentation
  - Dependencies between AEMO artefacts and industry program design
  - Potential for AEMO delays
- Early phases of project planning
  - Details to be provided following detailed impact assessment and project development
- Vendor capacity
  - Availability and resourcing capacity

Other risks identified

The following other risks were raised by a few respondents:

- Short testing and market trial period
- New rules changes / projects impacting capacity to deliver
- AEMO readiness and transition planning
  - Increased focus on industry issues required
- Impact of increased data on internal systems
- Physical meter / meter software upgrades
- Timing and resourcing challenges with accreditation process – AEMO and MSPs
- Industry readiness
  - Readiness to accept 5 minute data prior to 1 July 2021

These risks have been raised through reporting, will be reviewed at the RWG and escalated as required.

Risk management

- New readiness risks and issues identified by the RWG or its subsidiary focus groups will be escalated to the PCF for inclusion in and management through the overall *Industry Risks and Issues Register.*
- The RWG will consider risks and issues every quarter and
- The Industry Risks and Issues Register can be found at: https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Program-Management/Program-Consultative-Forum
- In managing risks and issues, the PCF may assign actions to the RWG or its focus groups to carry out.

3a. Results – Overall program status and trends

Overall program status – 5MS

Figure (2): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS:

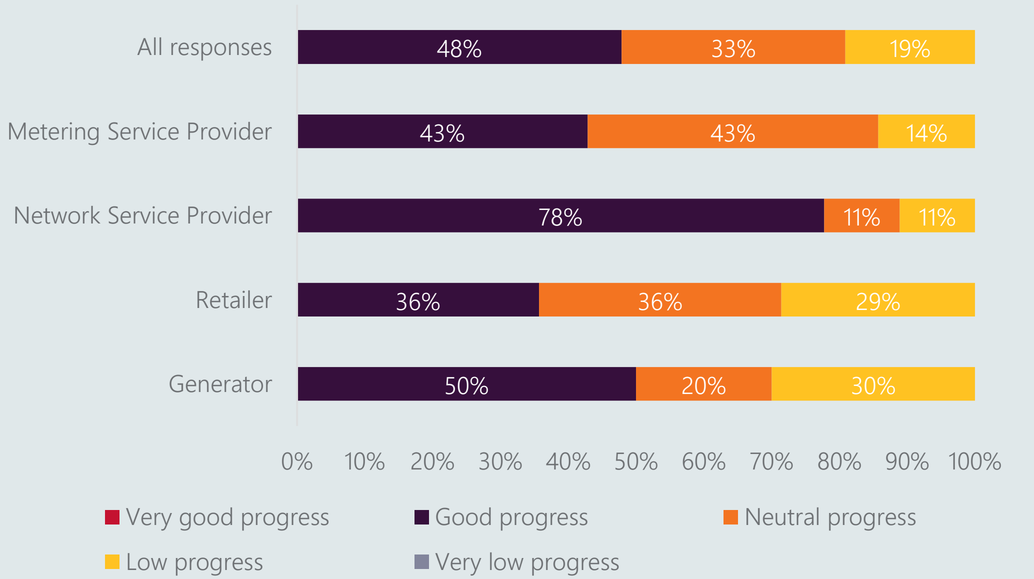
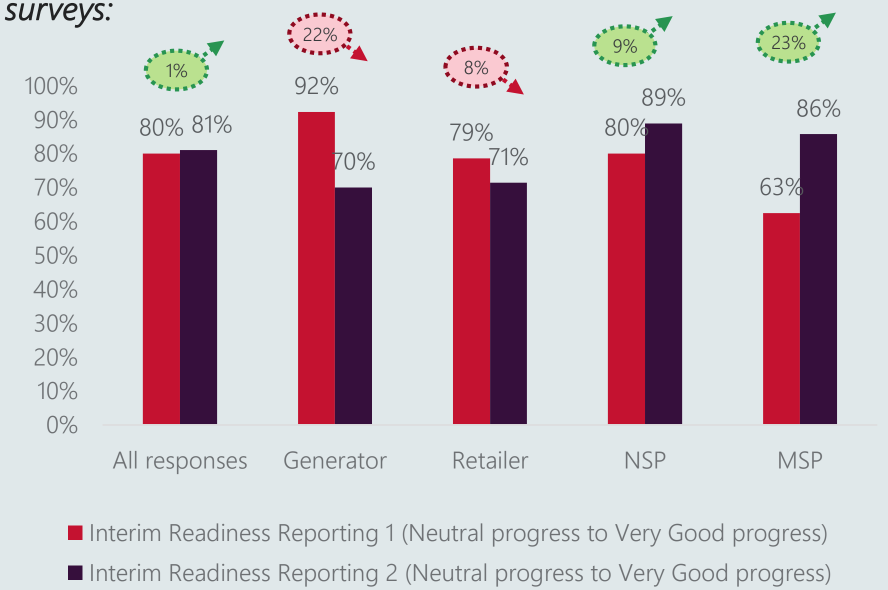


Figure (3): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for 5MS, *comparison between surveys:*



Observations:

- The proportion of respondents with Neutral to Good progress on their 5MS program increased by 1% to 81%
- MSPs made the most progress on their 5MS programs between the two surveys, with the proportion responding with Neutral to Good progress increasing by 23% to 86%
- The proportion of Generators and Retailers with Neutral to Good progress on 5MS dropped by 22% and 8%

Overall program status – GS

Figure (4): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for GS:

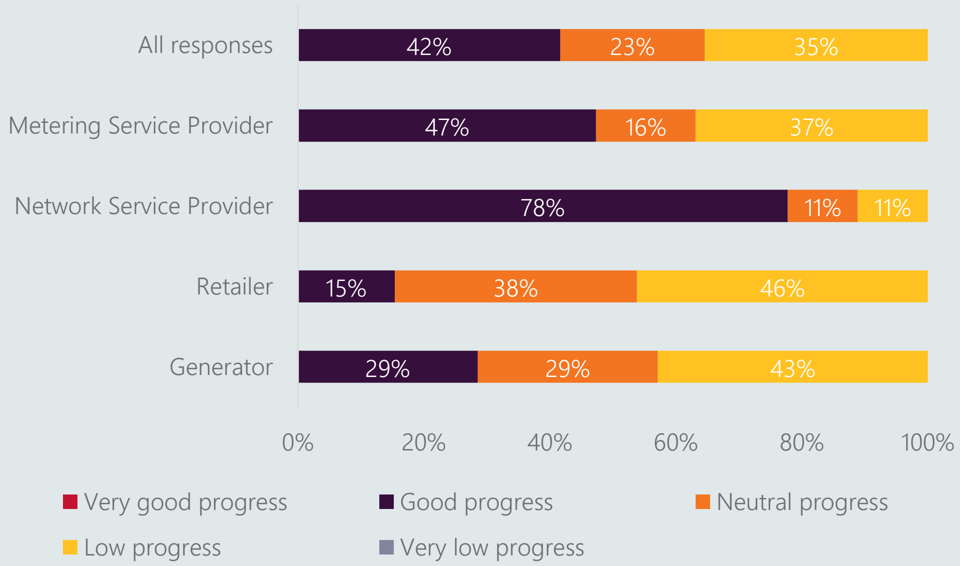
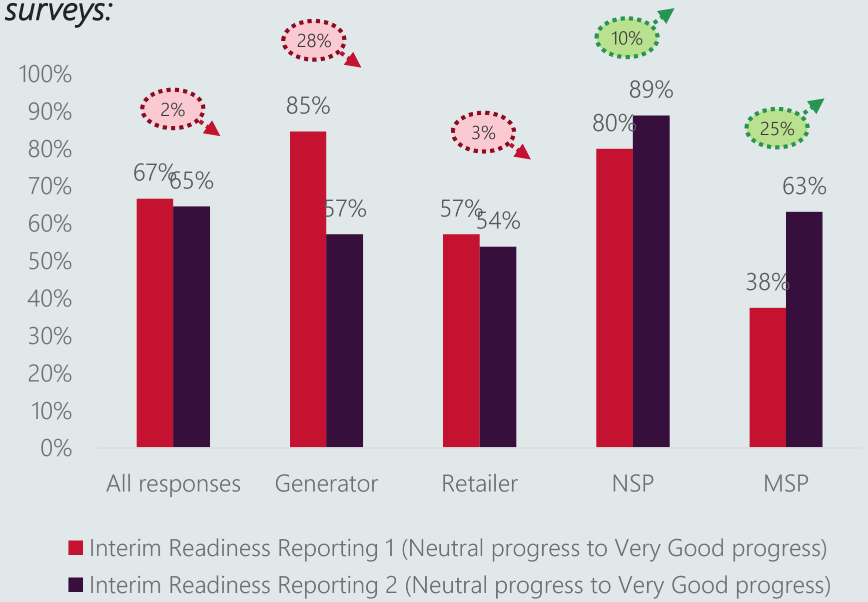


Figure (5): What is the overall status of your organisation's program, taking into account planning, budget, resourcing, issue and risk management, and governance etc. for GS, *comparison between surveys:*

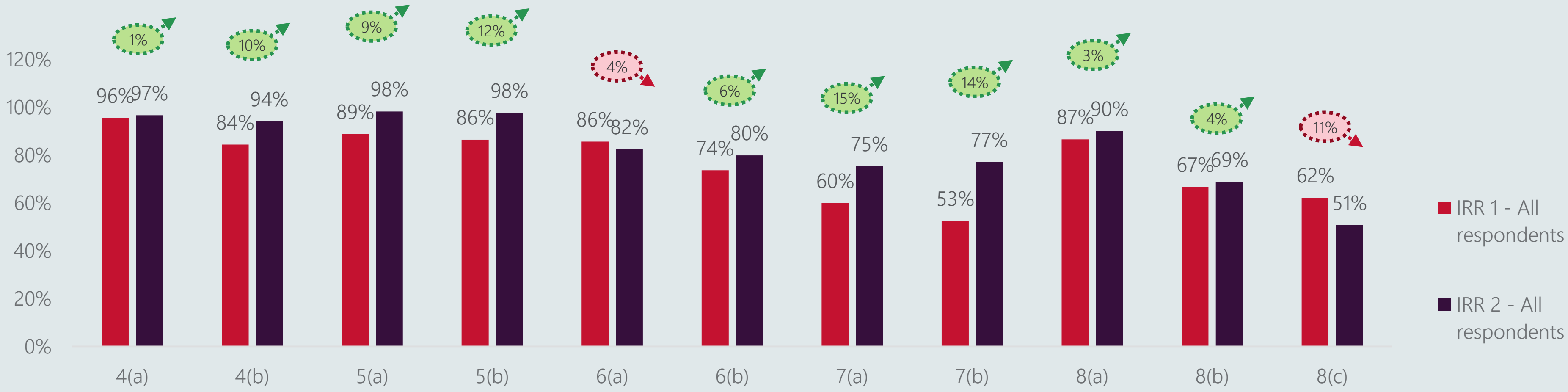


Observations:

- The proportion of respondents with Neutral to Good progress on their GS program decreased increased by 2% to 65%
- MSPs made the most progress on their GS programs between the two surveys, with the proportion responding with Neutral to Good progress increasing by 23% to 63%
- The proportion of Generators and Retailers with Neutral to Good progress on GS dropped by 28% and 3%

Trends – Project establishment

Figure (6): Response variances between surveys – Project establishment



#	Question
4	For your organisation, what is the Executive Management's level of understanding of the scope of change required under:
4(a)	5 Minute Settlement
4(b)	Global Settlement
5	Has funding for implementation activities been considered by your organisation for:
5(a)	5 Minute Settlement
5(b)	Global Settlement
6	To what extent have the identified funding requirements been incorporated into funding cycles for:
6(a)	5 Minute Settlement
6(b)	Global Settlement

#	Question
7	To what extent has a project plan been developed by you organisation for:
7(a)	5 Minute Settlement
7(b)	Global Settlement
8	In relation to Project Establishment, to what extent:
8(a)	has management ownership for the project delivery been established?
8(b)	has a resourced project team been established and in place to deliver the identified scope?
8(c)	has the project schedule been established with status management in place?

Observations:

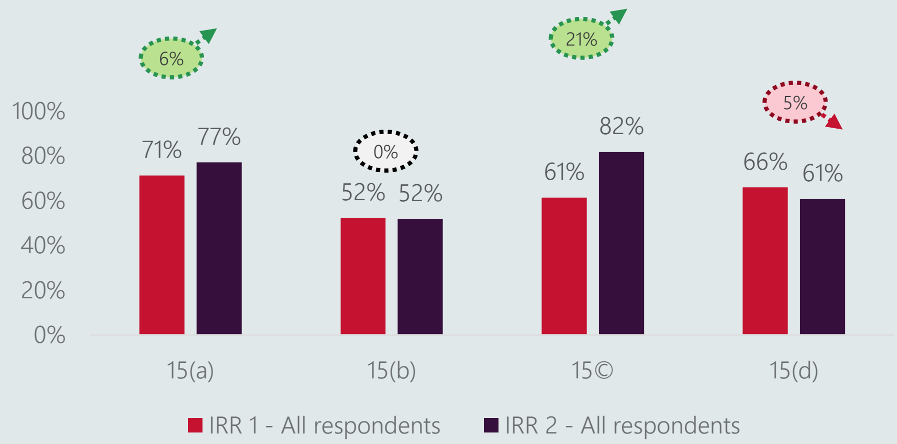
- This graph presents the change in proportion of responses between the first and second survey for project establishment questions (Q4 to Q8). *Please see slide 8 for more information on how to interpret this graph.*
- Generally there has been positive progress in responses relating to project establishment questions. The only two questions that did not follow this positive trend are questions 6(a) and 8(c), relating to funding requirements for 5MS and project scheduling.

Trends – IT Delivery & Impact Assessments

Figure (7): Response variances between surveys – IT delivery

#	Question
9	To what extent has the IT delivery approach been established to deliver the identified system changes ?
9(a)	5 Minute Settlement
9(b)	Global Settlement
10	In relation to your IT delivery approach, to what extent:
10(a)	are your IT delivery programs for 5MS and GS combined?
10(b)	has the project commenced activities?
11	To what extent has your organisation engaged with vendors and service providers about possible impacts arising due to 5MS and GS?
14	To what extent have vendor activities and upgrades been incorporated into the project delivery approach?

Figure (8): Response variances between surveys – Impact assessment



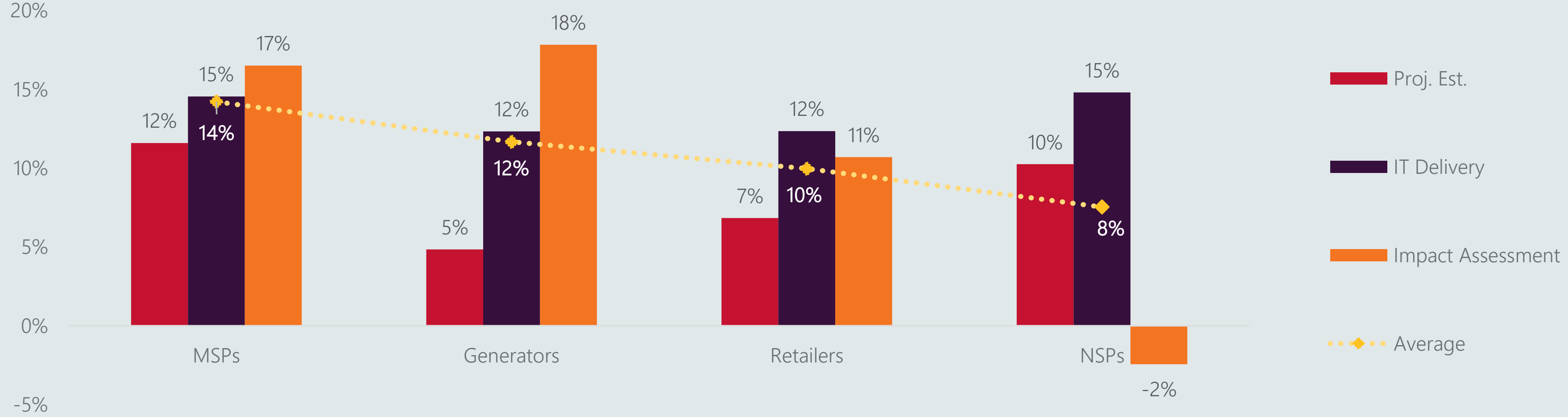
#	Question
15	For the areas below, to what extent have impact assessments performed to date considered:
15(a)	Market Procedures
15(b)	Commercial operations and agreements
15(c)	Standing Data/ meter transition
15(d)	Internal Business Processes
15(e)	Other [Please define new category]

Observations:

- Generally there has been positive progress in responses relating to IT delivery and Impact assessments. The only two questions that did not follow this positive trend are questions 15(b) and 15(d), relating to impact assessments for commercial operations and agreements, and also internal business processes.

Trends – All survey responses by participant type

Figure (9): Response variances between surveys, per participant type – all question categories:



Observations:

- The above graph presents the general level of progress for each participant type between surveys, for each question type grouping (e.g. project establishment, IT delivery etc.). The yellow dotted line highlights the average level of progress across all question types.
- MSPs made the most progress between surveys among all participant types, with an average increase of 14% across all question types.
- NSPS made the least progress between surveys, with an average increase of 8% between surveys.

3b. Results – Program establishment

Project establishment - Executive level understanding of scope of change required - 5MS & GS

Figure (10): For your organisation, what is the Executive Management's level of understanding of the scope of change required under 5MS, GS:

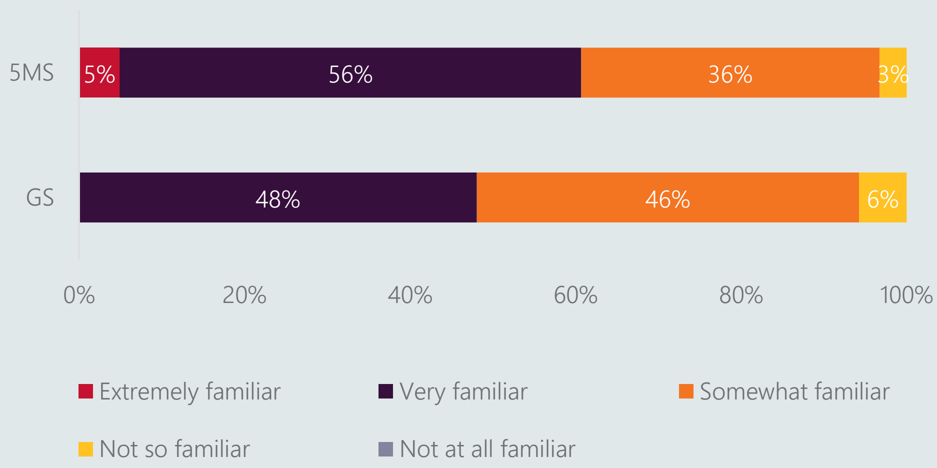
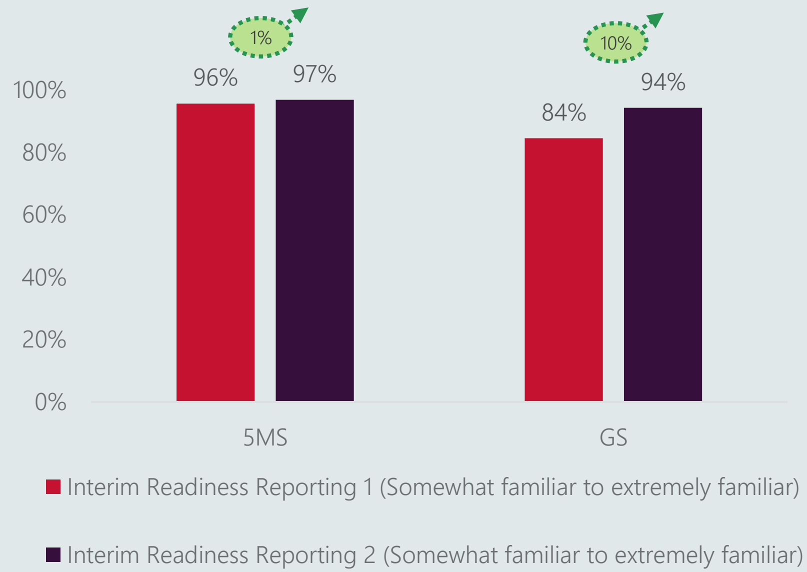


Figure (11): For your organisation, what is the Executive Management's level of understanding of the scope of change required under 5MS, GS, *comparison between surveys:*



Observations:

- Almost all executives are at least somewhat familiar with the scope of change required for 5MS (97%) and GS (94%). This represents a 1% and 10% increase from the previous survey.
- Around half of executives are now at least very familiar with 5MS (61%) and GS (48%), this represents an increase of 12% and 30% from the previous survey

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Project establishment – Funding considerations

Figure (12): Has funding for implementation activities been considered by your organisation for 5MS, GS:

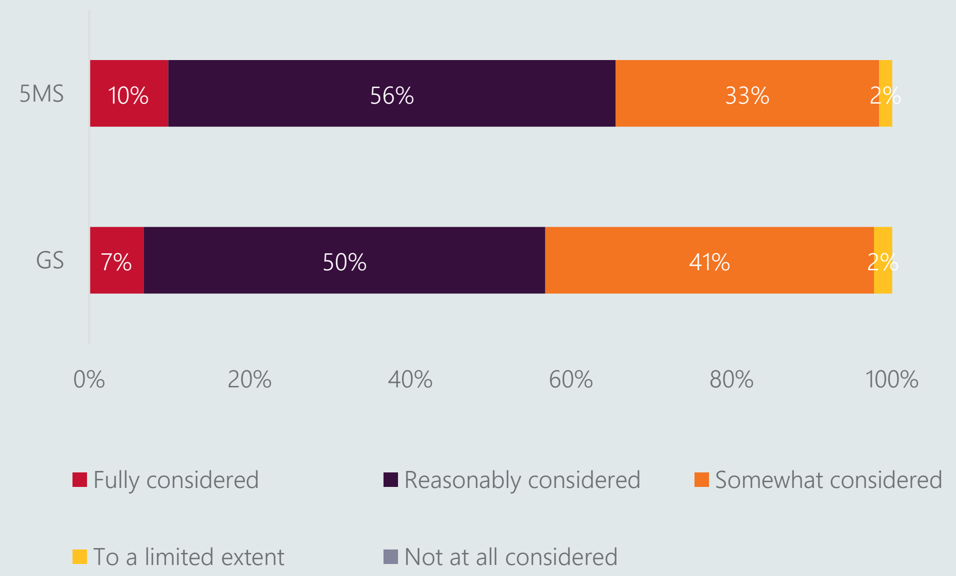


Figure (13): Has funding for implementation activities been considered by your organisation for 5MS, GS:, *comparison between surveys:*

Observations:

- Almost all (98%) of respondents have somewhat considered funding activities for 5MS and GS, representing an increase of 7% and 12% from the previous survey.
- Funding requirements for 5MS and GS have at least moderately incorporated into funding cycles for by 82% and 79% of respondents. This represents a decrease of 4% and an increase of 6% from the previous survey.

Project establishment – Incorporation of funding requirements

Figure (14): To what extent has the identified funding requirements been incorporated into funding cycles for 5MS, GS:

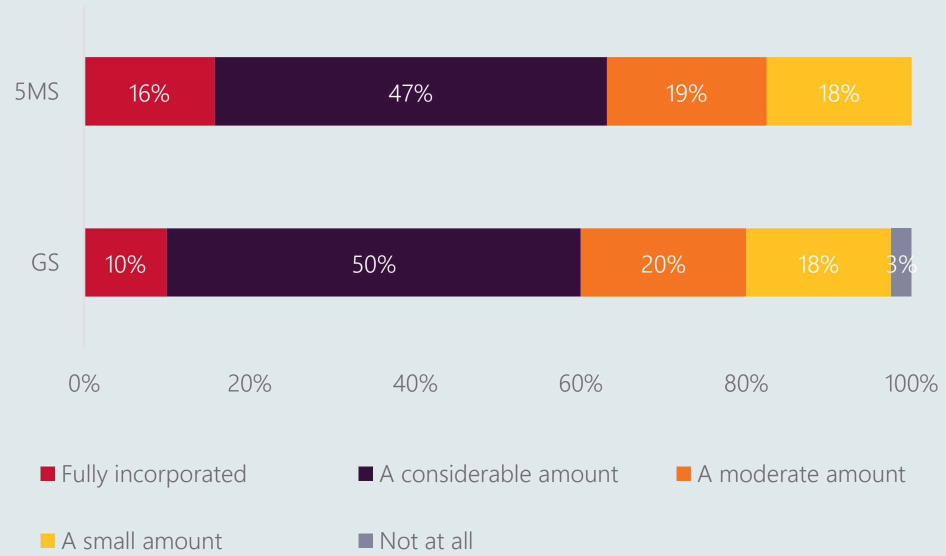
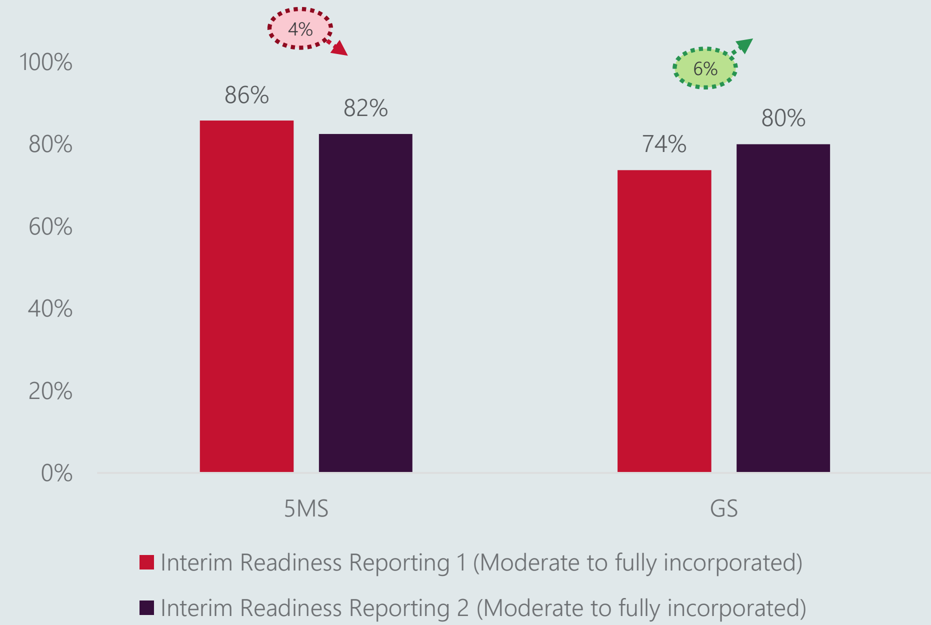


Figure (15): To what extent has the identified funding requirements been incorporated into funding cycles for 5MS, GS, *comparison between surveys*



Observations:

- Funding requirements for 5MS and GS have at least moderately incorporated into funding cycles for by 82% and 80% of respondents. This represents a decrease of 4% and an increase of 6% from the previous survey.

Project establishment – Project plan and project team establishment

Figure (16): To what extent has a project plan been developed by your organisation for 5MS & GS:

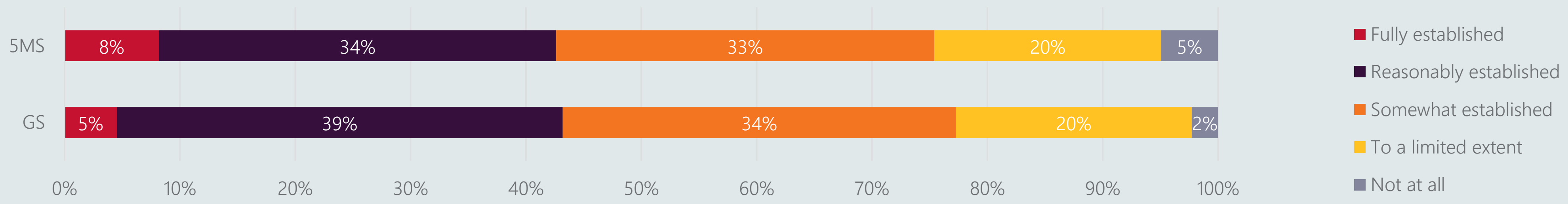


Figure (17): To what extent has a project plan been developed by your organisation for 5MS, *comparison between surveys*

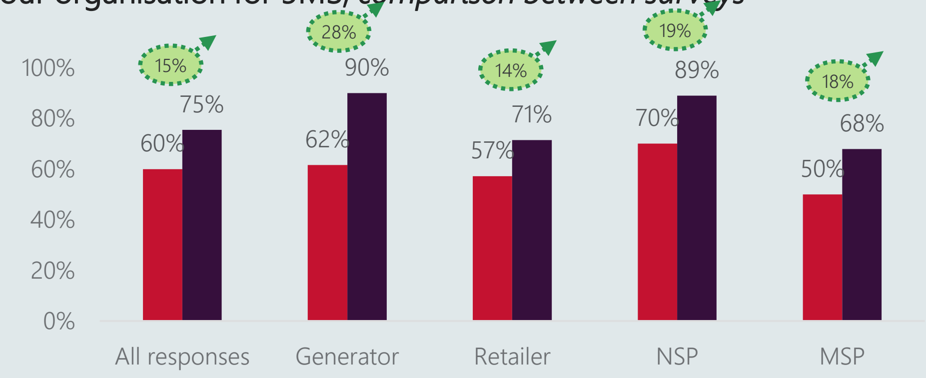
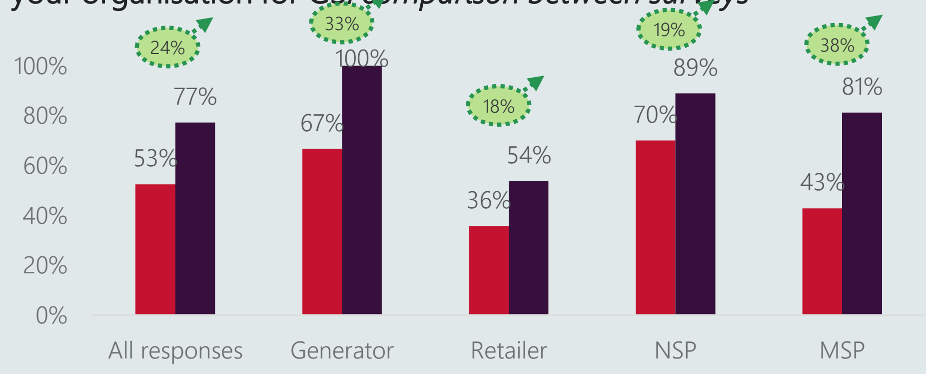


Figure (18): To what extent has a project plan been developed by your organisation for GS, *comparison between surveys*



Interim Readiness Reporting 1 (Somewhat established to fully established)   Interim Readiness Reporting 2 (Somewhat established to fully established)

Observations:

- Almost all respondents have started developing project plans for 5MS (95%) and GS (98%). There has been progress among those who have previously established project plans, with the proportion of respondents that have somewhat established project plans increasing by 15% to 75% for 5MS, and 24% to 77% for GS.

Project establishment – Project plan and project team establishment

Figure (19): In relation to Project Establishment, to what extent:

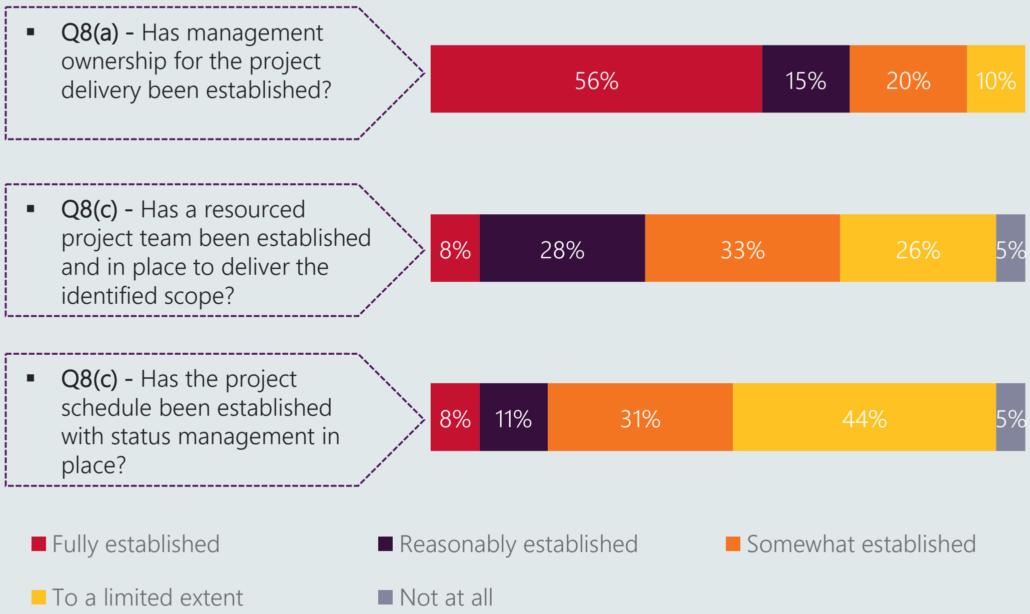
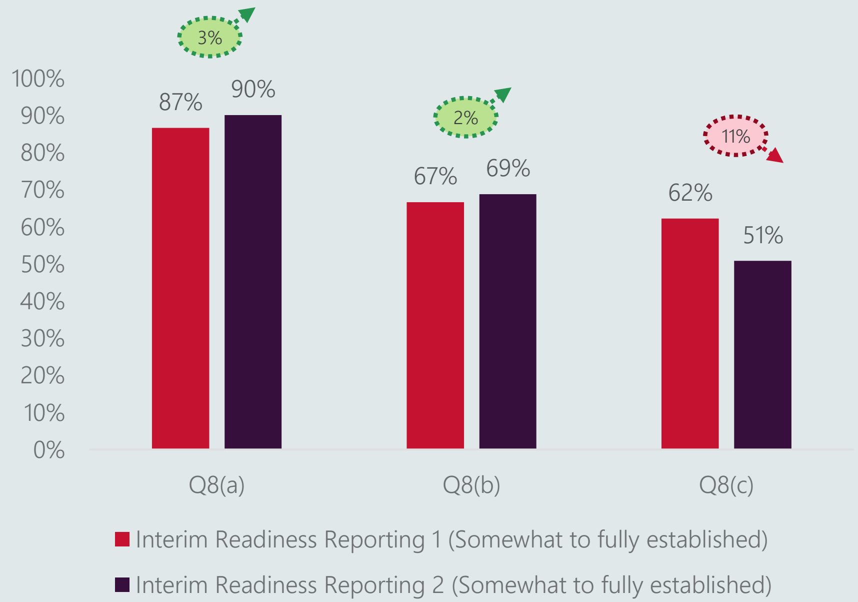


Figure (20): Q8(a), Q8(b) and Q8(c), *comparison between surveys:*



Observations:

- All respondents have commenced establishing management ownership for project delivery, with 56% of respondents already fully establishing ownership. This is up 12% from 44% in the previous survey.
- Most respondents have commenced activities to establish a project team 93%, representing an increase of 2%.
- Almost all respondents have established a project schedule with status management (95%), representing an increase of 13%. However only a select few have fully established teams and plans 8%, representing an increase of 4%.

3c. Results – IT delivery approach

IT Delivery Approach – Extent of establishment of IT delivery approach for 5MS

Figure (21): To what extent has the IT delivery approach been established to deliver the identified system changes for 5MS:

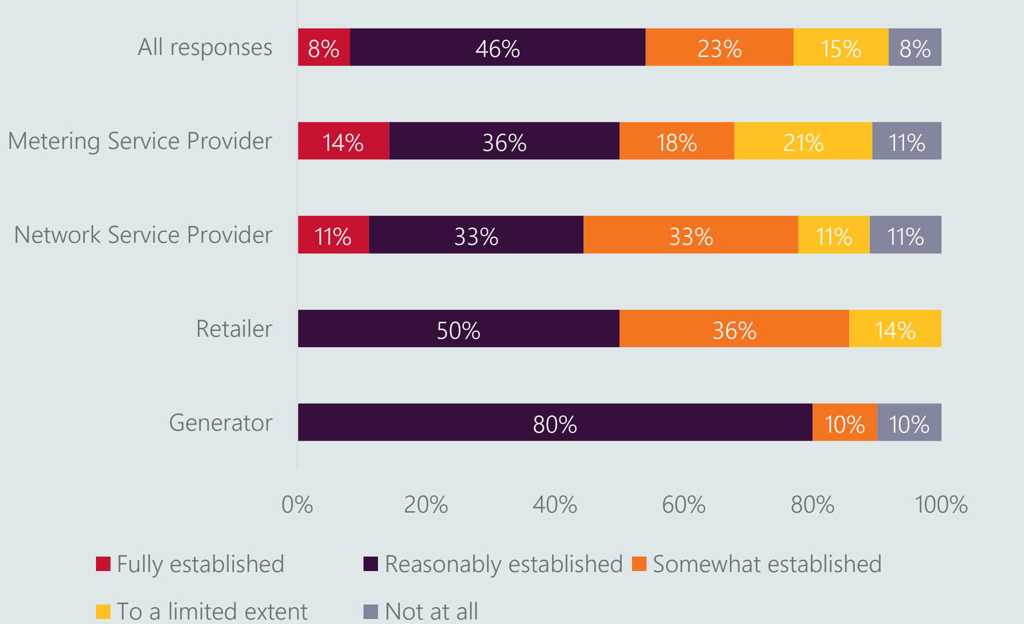
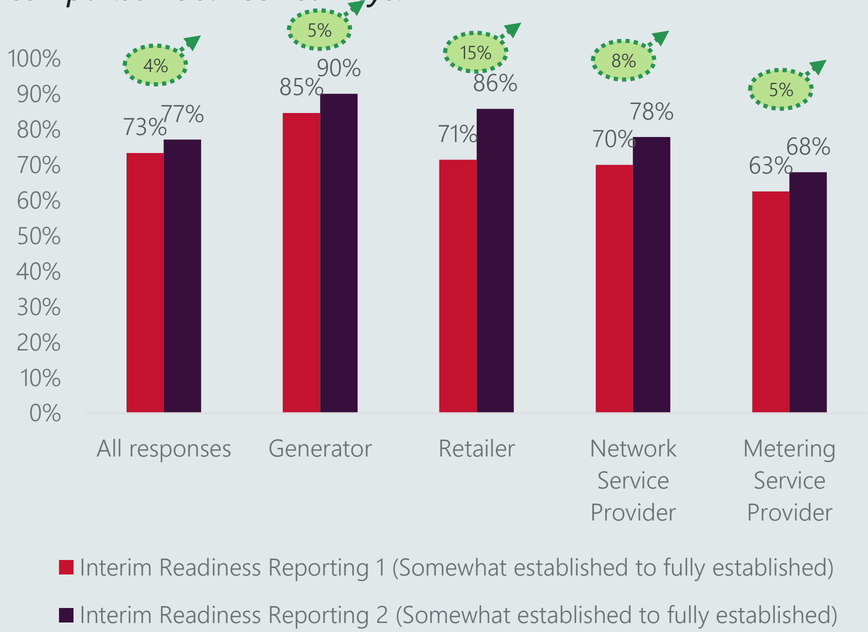


Figure (22): To what extent has the IT delivery approach been established to deliver the identified system changes for 5MS, *comparison between surveys:*



Observations:

- The IT delivery approach has been at least somewhat stablished for 77% of respondents for 5MS, representing an increase of 4% between the two surveys.
- Generators have the most established IT delivery approach for 5MS, although this could be due to the relatively smaller scope of change compared to other participant types.

IT Delivery Approach – Extent of establishment of IT delivery approach for GS

Figure (23): To what extent has the IT delivery approach been established to deliver the identified system changes for GS:

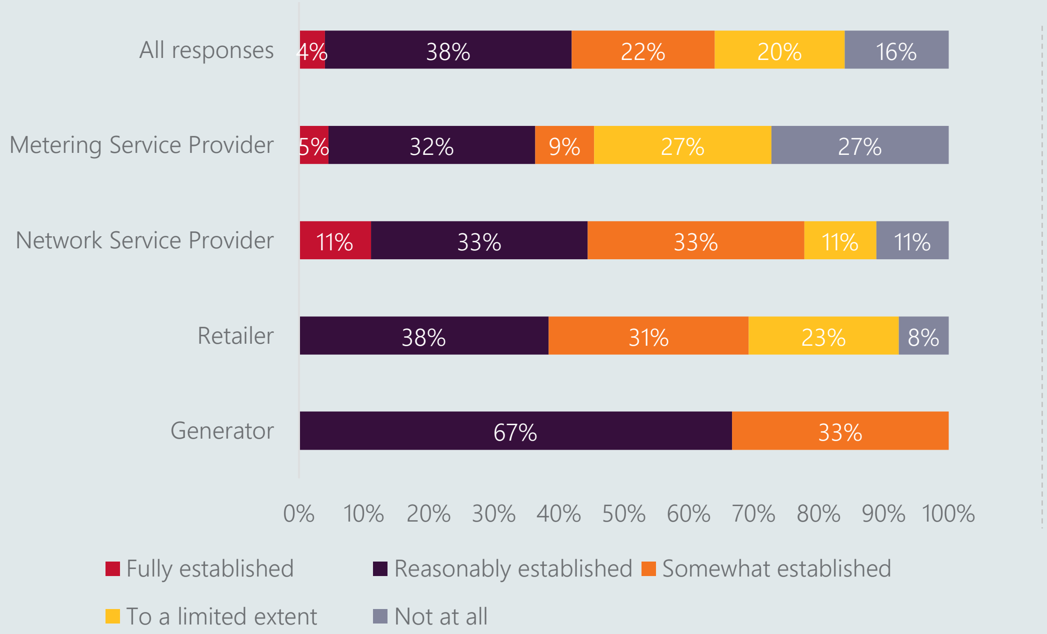
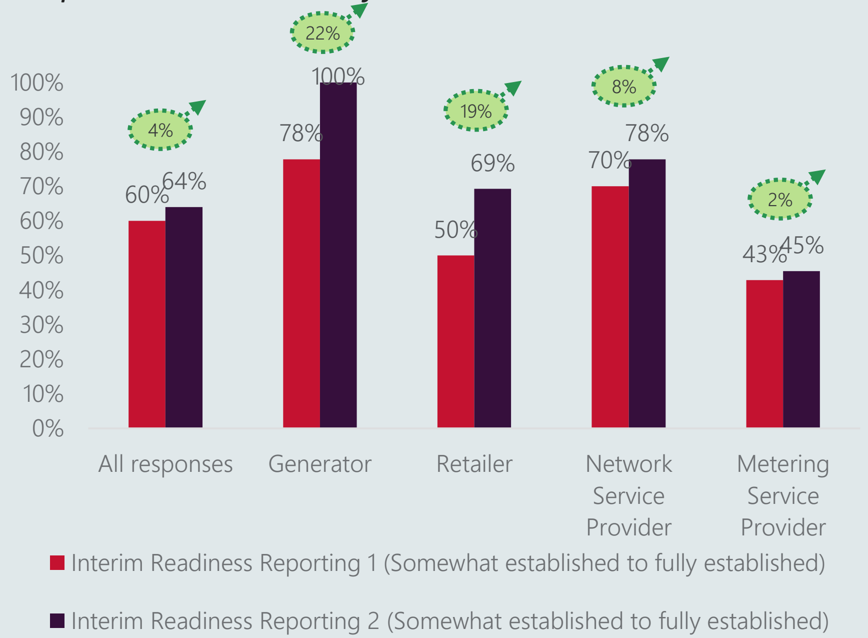


Figure (24): To what extent has the IT delivery approach been established to deliver the identified system changes for 5MS, *comparison between surveys:*



Observations:

- The IT delivery approach has been established at least to 'a limited extent' for 84% of respondents for GS, representing an increase of 8%.
- MSPs have the least established IT delivery approach for GS compared to other participant types, with 45% of MSP respondents having a somewhat established IT delivery approach, compared to 78% for NSPs and 69% for retailers.

IT Delivery Approach – Extent that 5MS and GS IT delivery programs are combined

Figure (25) : To what extent are your IT delivery programs for 5MS and GS combined:

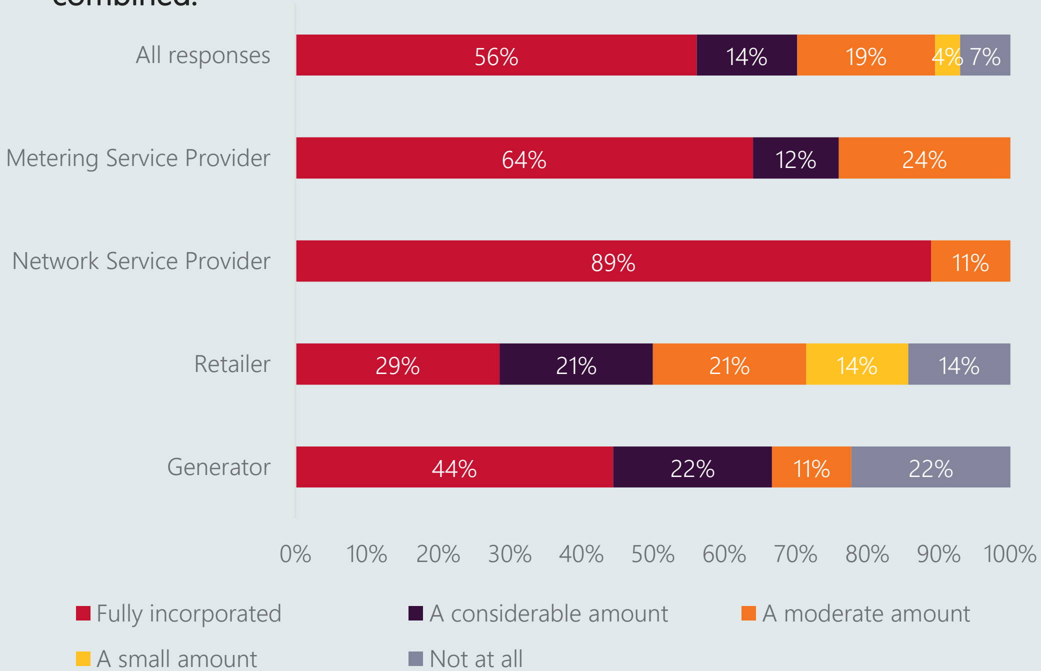
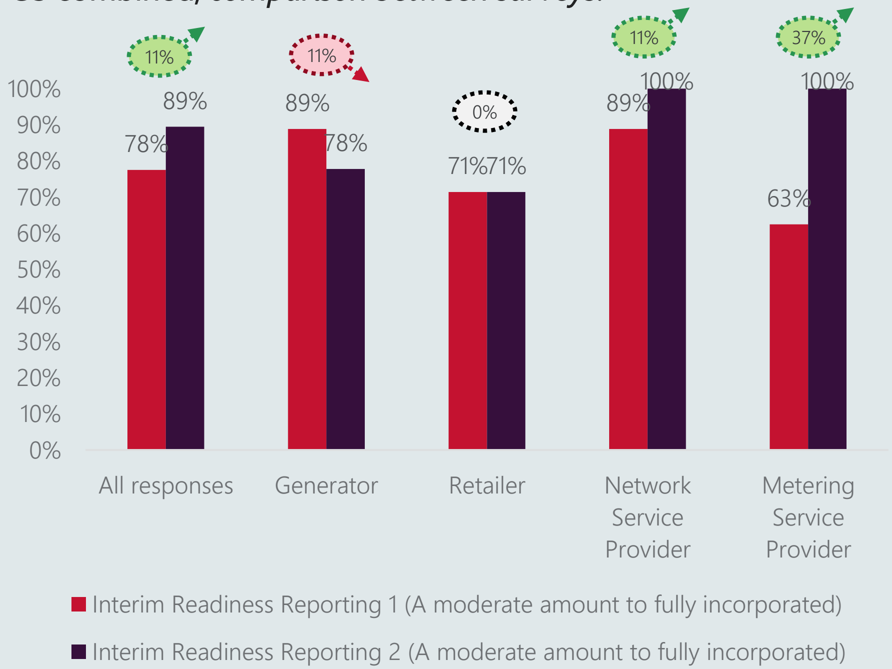


Figure (26) : To what extent are your IT delivery programs for 5MS and GS combined, *comparison between surveys:*



Observations:

- Almost all respondents in this survey (93%) have IT delivery programs that are at least combined to a small extent for GS and 5MS delivery. This represents a decrease of 5% from the previous survey.
- 56% of all respondents have fully combined IT delivery programs for 5MS and GS, representing an increase of 9%.
- Retailers are the least likely to have fully integrated programs, with 29% reporting fully integrated programs.
- NSPs are most likely to have fully integrated programs, with 70% reporting fully integrated programs.

IT Delivery Approach – Extent that project has commenced activities

Figure (27) : In relation to your IT delivery approach, to what extent has the project commenced activities:

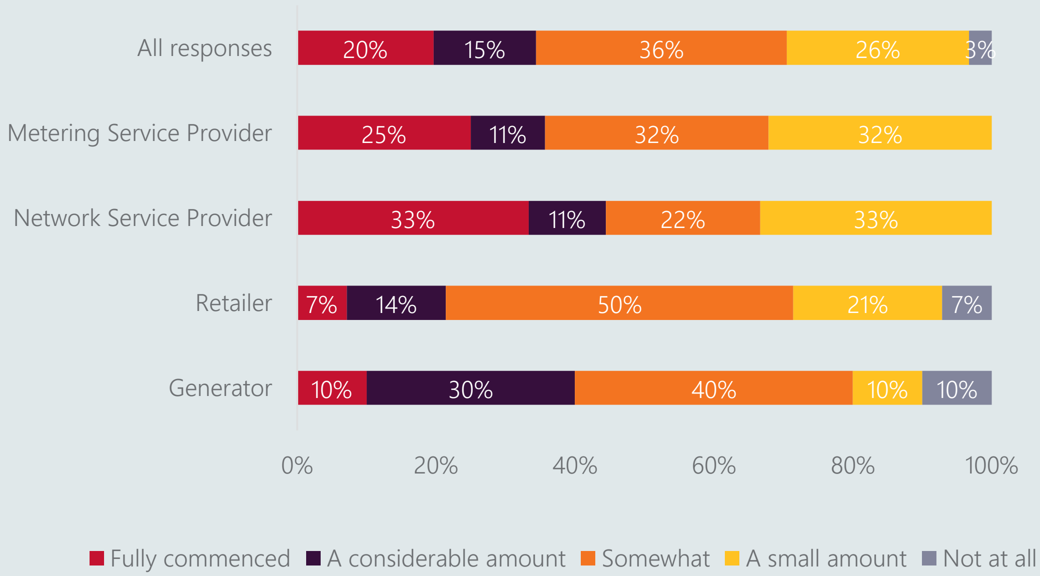
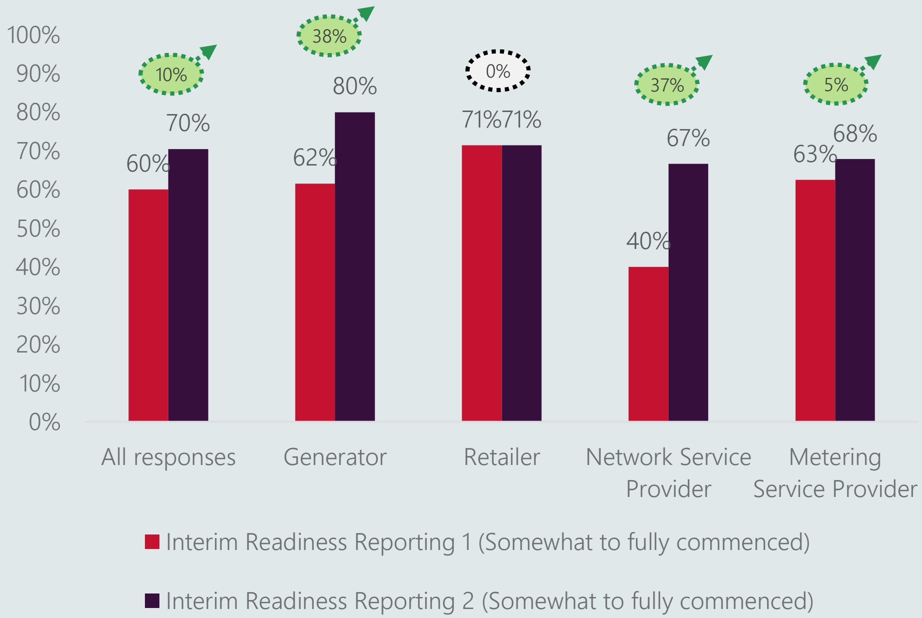


Figure (28) : In relation to your IT delivery approach, to what extent has the project commenced activities, *comparison between surveys:*



Observations:

- Almost all respondents have commenced activities (97%) to a limited extent. This represents an increase of 6% from the previous survey.
- There has been notable progress in project activities, with the proportion of respondents that have fully commenced activities increasing from 7% to 20%.

IT Delivery Approach – Extent of engagement with vendors and service providers about possible impacts arising due to 5MS & GS

Figure (29) : To what extent has your organisation engaged with vendors and service providers about possible impacts arising due to 5MS & GS?

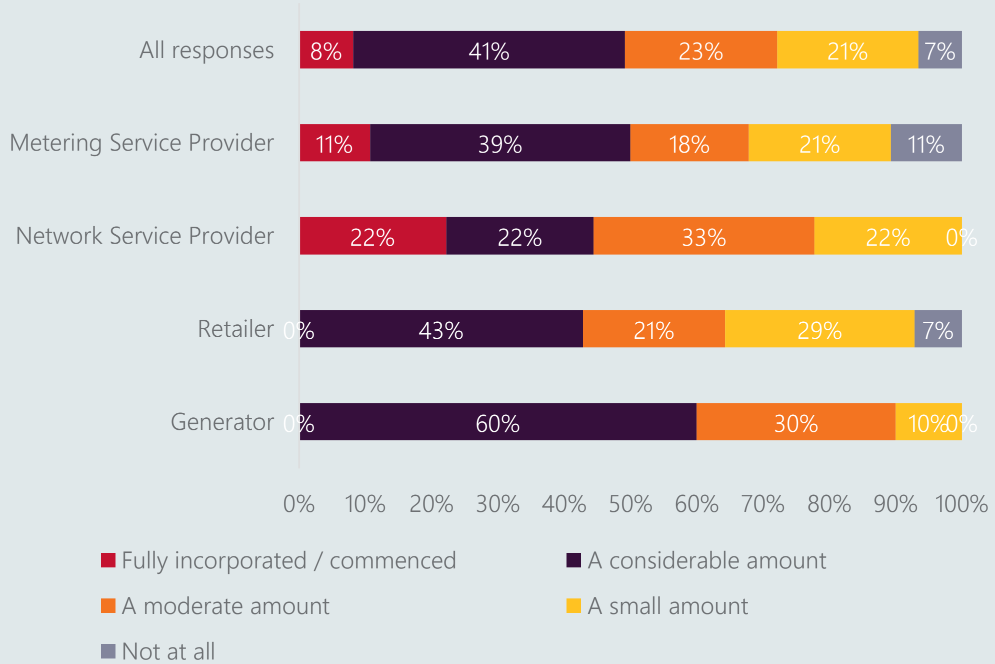
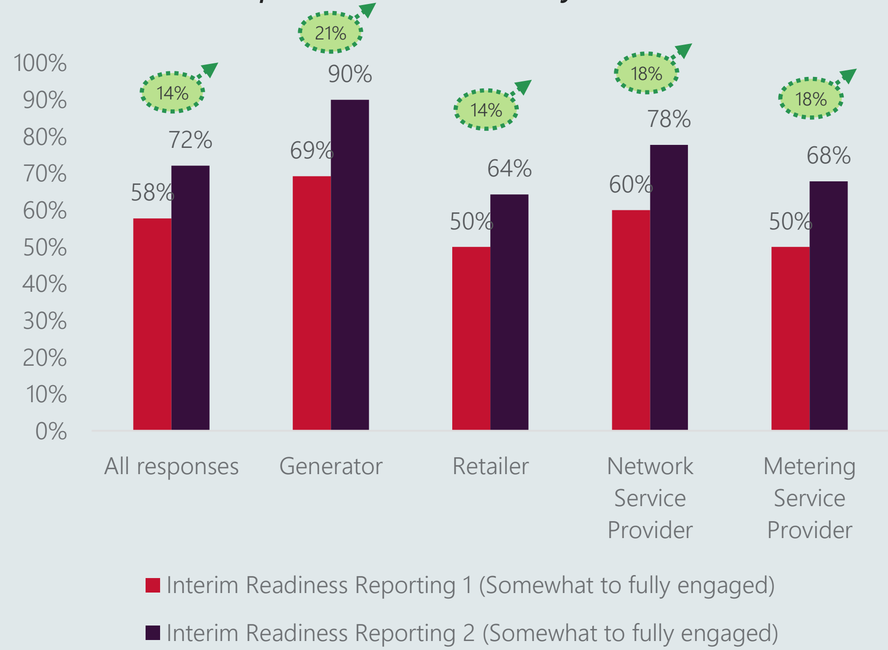


Figure (30) : To what extent has your organisation engaged with vendors and service providers about possible impacts arising due to 5MS & GS, *comparison between surveys:*



Observations:

- 72% of respondents have engaged with vendors on possible impacts of 5MS and GS at least to a moderate extent. This represents an increase of 14% between surveys.
- Only a few respondents (8%) have fully engaged with vendors. This proportion has remained stable between surveys.

IT Delivery Approach – Level of dependency, confidence level for successful delivery, and level of engagement with vendor

Figure (31): Level of dependency on vendor for program success

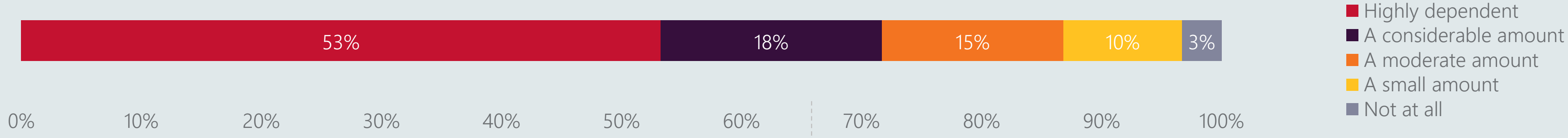


Figure (32): Confidence level for successful vendor delivery

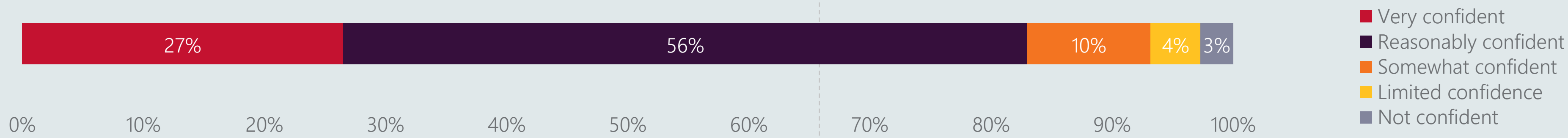
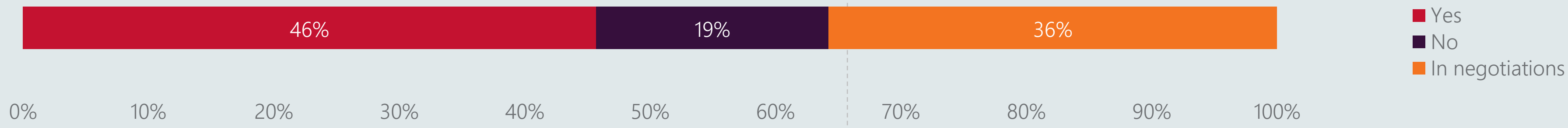


Figure (33): If vendor is contractually engaged



Observations:

- Among all the vendors listed by survey participants, respondents were highly dependent on 53% of them for program success. Respondents were reasonably confident in 81% of vendors to successful deliver.
- Only 45% of listed vendors were contractually engaged, with 36% in negotiations.
- Organisations engaged a wide number of vendors, ranging from one vendor to 1 vendors. The average number of vendors per organisation was 2.7.
- The most frequently listed vendors were Energy One, Oracle, Itron and Brave Energy. Other popular vendors include Hansen, Wipro, SAP, PLUS ES and Energetiq.

IT Delivery Approach – Extent of vendor engagement and incorporation into delivery approach

Figure (34) : To what extent have vendor activities and upgrades been incorporated into the project delivery approach?

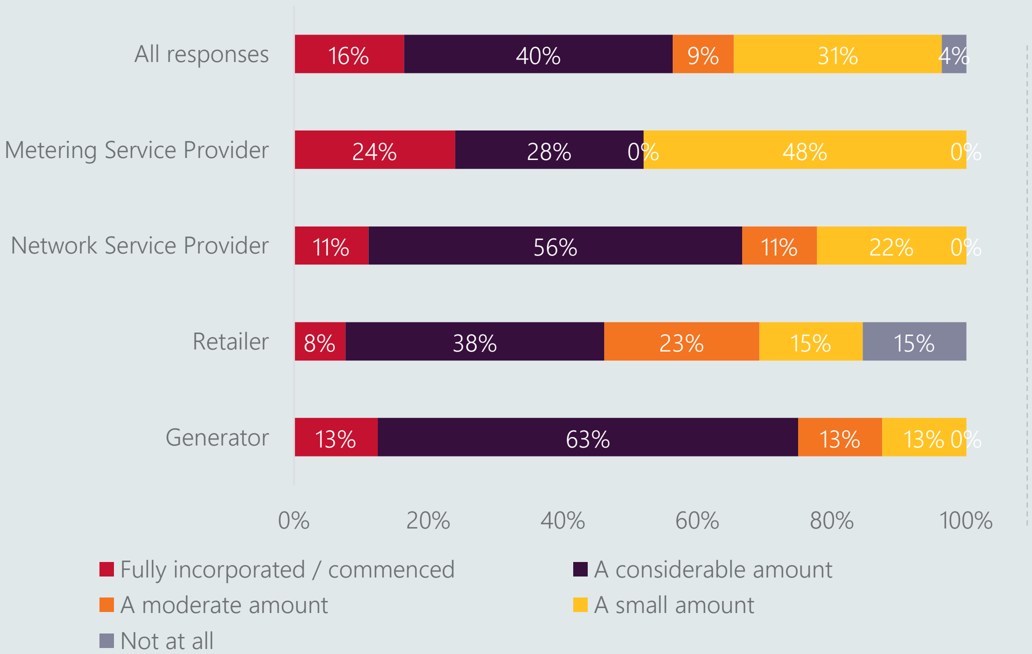
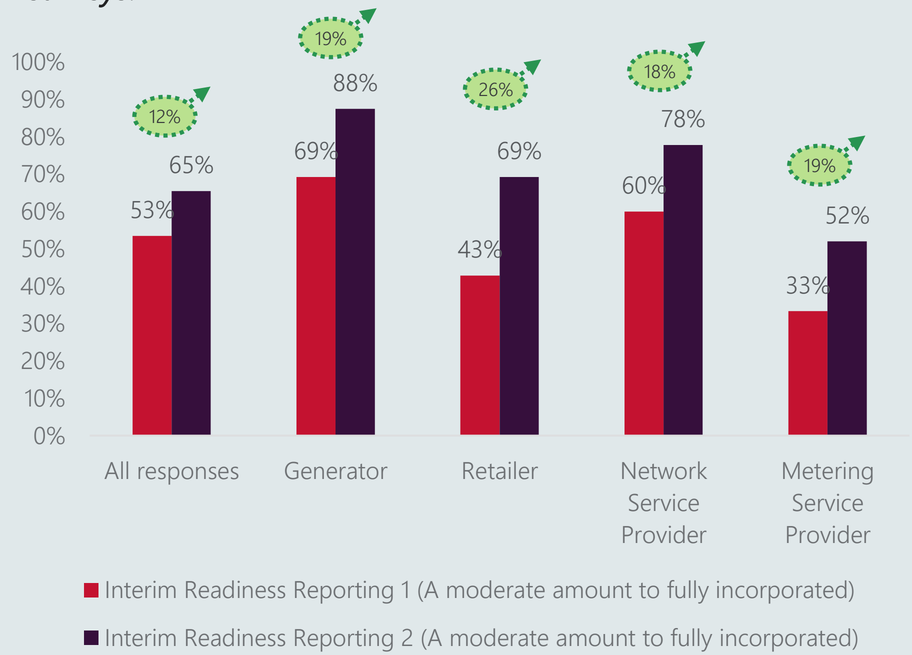


Figure (35) : To what extent have vendor activities and upgrades been incorporated into the project delivery approach, *comparison between surveys:*



Observations:

- 65% of respondents have incorporated vendor activities and upgrades into the project delivery approach at least to a moderate amount. This represents an increase of 12% between surveys.

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3d. Results – Impact assessments

Impact Assessments – Extent that impact assessments have been performed

Figure (36) : For the below areas, to what extent has impact assessments performed to date considered [the below categories]:

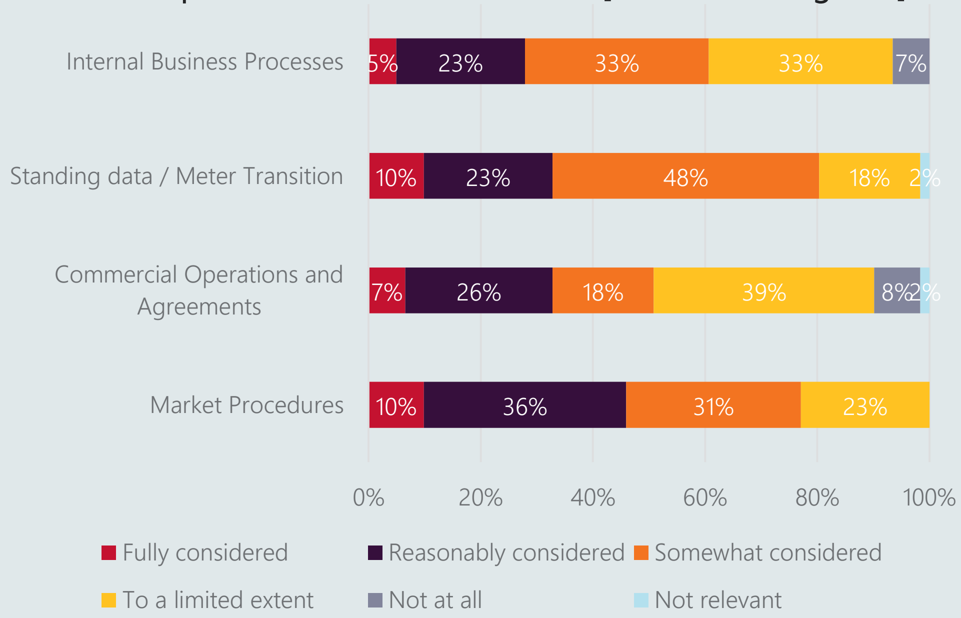
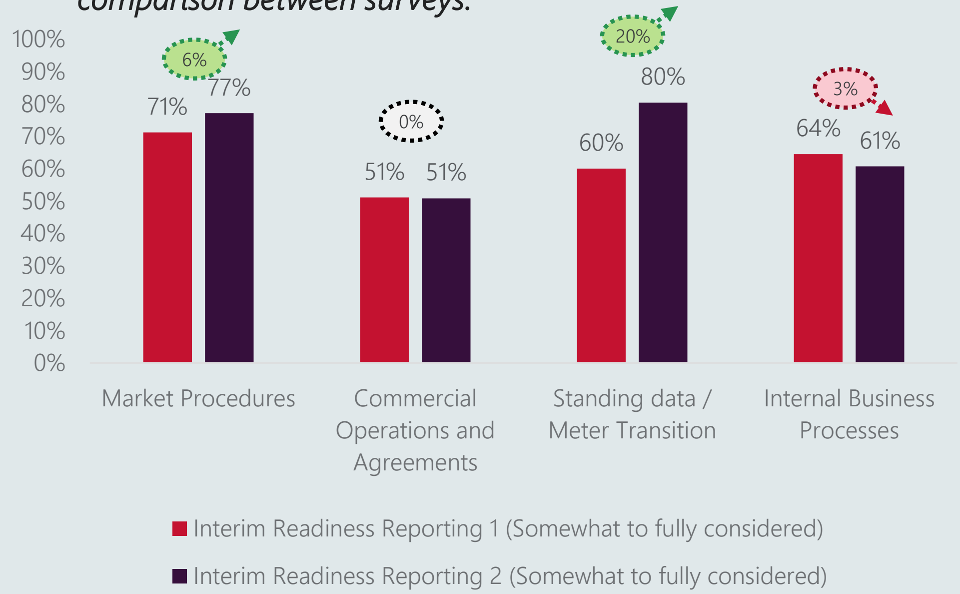


Figure (37) : For the below areas, to what extent has impact assessments performed to date considered [the below categories], *comparison between surveys:*



Observations:

- Most respondents have somewhat commenced impacts assessments on Standing data/Meter Transition (80%), Market Procedures (77%), Internal Business Processes (61%) and Commercial Operations and Agreements (51%).
- There has been the most progress in performing impact assessments for Standing Data/Meter Transition, with the proportion of respondents that have somewhat commenced assessments increasing by 20% to 80%.
- Almost all respondents have commenced assessments on Commercial Operations and Agreements to a limited extent. However, progress is not well advanced and remains stagnant between the two surveys, with only 51% somewhat considering impacts to this category.

3e. Results – Market and industry preparedness

Market and industry preparedness – Intent and confidence level to participate

Figure (38) : Does your organisation intend to participant in industry testing and market trials for 5MS, GS, UFE:

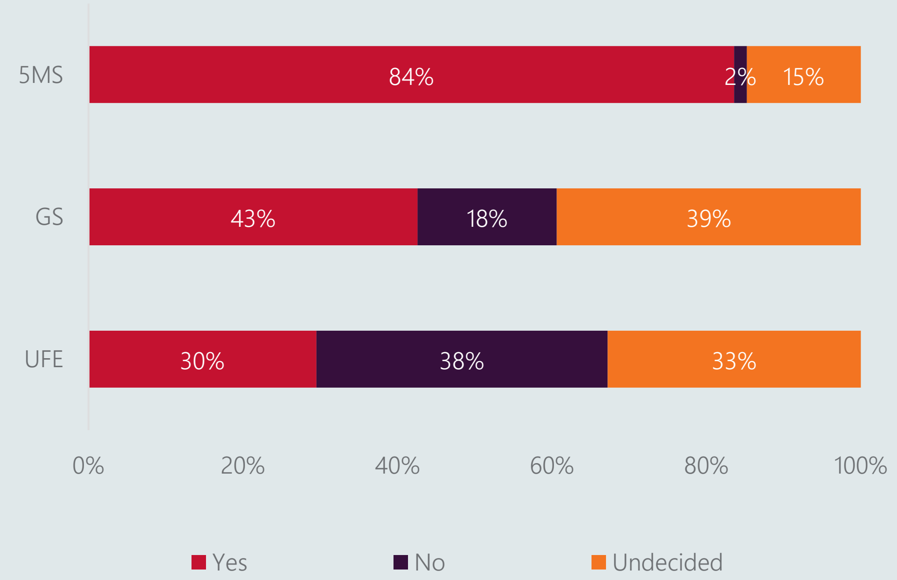
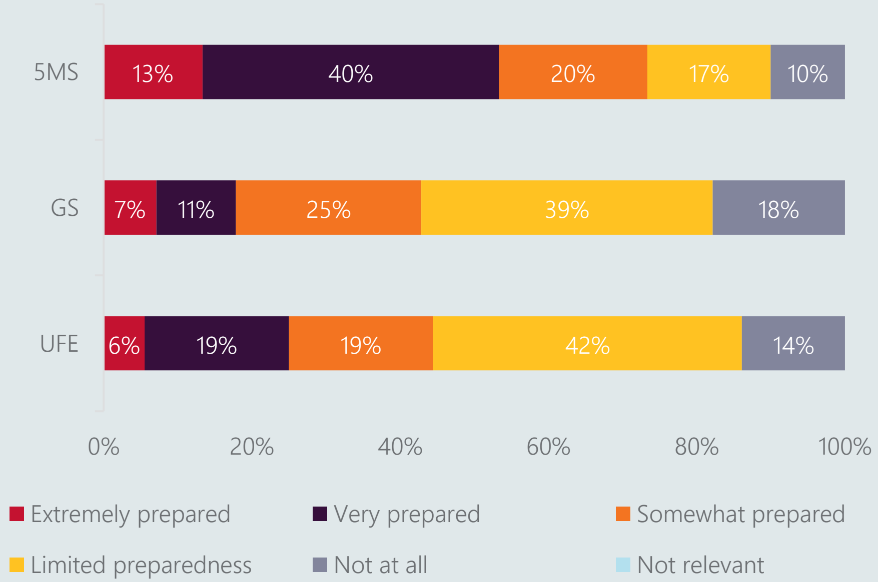


Figure (39) : How confident are you that your organisation will be ready to participate in industry testing and market trails for 5MS, GS, UFE. *comparison between surveys:*



Observations:

- Based on feedback on the first survey, the questionnaire now requests respondents to provide information on their intent to participate, and confidence level to be ready for industry testing and market trials.
- A large majority of respondents (84%) intend to participate in testing for 5MS, with 53% feeling that they will be very prepared to participate.
- 43% of respondents intend to participate in testing for GS, with 18% feeling that they will be very prepared to participate. Some respondents remain undecided if they intend to participate in testing for GS settlement (39%) and UFE publication (33%).

4. Glossary

Glossary

Term	Definition
5MS	Five-minute settlement
AEMO	Australian Energy Market Operator
GS	Global settlement
MC	Metering coordinator
MDP	Metering data provider
MP	Metering provider
MP2	Metering procedures package 2
MSP	Metering service provider
NEM	National electricity market
NSP	Network service provider
PCF	Program consultative forum
RWG	Readiness working group
UFE	Unaccounted for energy

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