ENA Network Innovation Strategy

Online workshops summary report

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INTRODUCTION

The network innovation strategies

Innovation is central to the ability of the energy networks to rise to the challenge of net zero. The Gas and Electricity Network Innovation Strategies play a key role in ensuring that network innovation is coordinated, focused on the key priorities for the energy system and delivers benefits to consumers.

The strategies were developed in conjunction with stakeholders and were first published in 2018. They are required to be updated every two years.

Regen has been commissioned by Energy Networks Association (ENA) to update the strategies for 2022, delivering one 'whole system' combined electricity and gas network innovation strategy.

The strategy needs to be accessible, relevant and provide the right information to enable third parties to engage with network innovation activities.

How was stakeholder engagement conducted?

The innovation strategy is shaped by an extensive and carefully designed programme of stakeholder engagement, so far comprising:

- Individual interviews with the networks and key stakeholders, such as Ofgem and Innovate UK.
- An online consultation, which ran from 3rd - 17th December 2021.
- A webinar (held on 7th December) to provide further information on the proposed content and to launch the online survey.
- Two online workshops (28th January and 2nd February 2022).

This not only acts to inform the network strategy but also increases participation in network innovation.

Online workshops

The objective of the workshops was to explore, in detail, the focus areas within each of the network innovation themes (which were defined during the online consultation phase.)

The workshops were held virtually on the 28th January and 2nd February 2022. The sessions were structured as such:

1. Overview of the updated principles for 2022
2. Overview of the updated themes for 2022
3. Breakout room discussions defining key innovation focus areas areas for each theme
4. Polls to allow all delegates to rank the proposed focus areas

This report summarises the findings of the online workshops and includes recommendations based on the feedback received. These recommendations will be used in the strategy drafting process.

November 2021: Individual interviews with networks

3rd December 2021: Online consultation launched

7th December 2021: Webinar launching online consultation

17th December 2021: Online consultation closed

28th January & 2nd February 2022: Online workshops

31st March 2022: Network Innovation Strategy published

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PARTICIPANTS

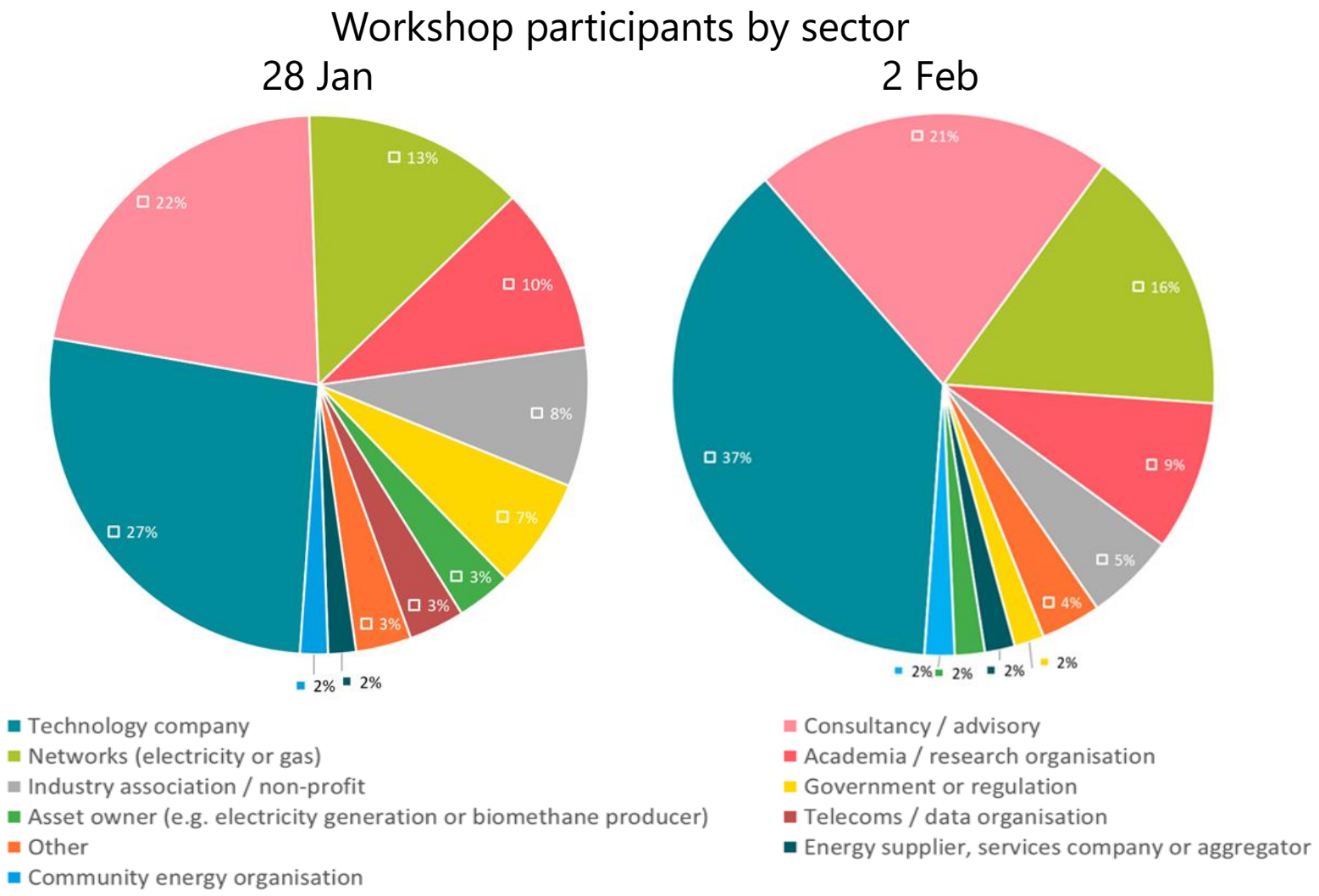
- There were 199 stakeholders, from across a wide range of sectors, who participated in the two workshops.
  - The two workshops had 90 and 109 attendees, respectively.
  - Over 300 people signed up for the workshops, with those that couldn't attend given the opportunity to feedback on the focus areas via Menti voting.

- During the workshop, attendees were asked to use Menti to vote on the shortlisted focus areas. 135 stakeholders used Menti to provide feedback. This comprised:
  - 69 respondents from the first workshop (61 during the session (68% of attendees) and 8 afterward).
  - 66 respondents from the second workshop (65 during the session (60% of attendees) and 1 afterward).

- The workshops attracted a wide range of sectors. Of the attendees who voted using Menti, 27% worked in technology companies (37 responses) and 19% worked for a consultancy (25 responses).

- 14% of stakeholders who logged on to Menti did not fill this section in (19 stakeholders).

- The first workshop had representatives from all identified sectors using Menti to provide feedback.



A full list of organisations that attended the workshops can be viewed in Appendix 1.

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UNDERLYING PRINCIPLES OF NETWORK INNOVATION

Consumer benefit:

Network innovation activity should ultimately benefit consumers financially, supporting them in a just transition.

Carbon impact:

Innovation projects should have a positive impact on the environment and the UK's net zero emissions target.

Collaboration and stakeholder engagement:

Network innovation activity should provide shared learning and increase collaboration between network companies and stakeholders.

Data and knowledge sharing:

Data and knowledge should be shared with stakeholders in a transparent and accessible way.

Implementation and deployment:

Viable initiatives should be implemented and deployed into business as usual.

Innovation culture:

Network companies should embrace an innovation culture throughout their businesses to better enable them to deliver transformative change.

KEY THEMES FOR NETWORK INNOVATION

Net zero and the energy system transition:

Facilitating and accelerating the UK's transition to net zero greenhouse gas emissions.

Whole energy system:

Developing joined-up approaches across sectors and energy vectors.

Flexibility and market evolution:

Developing and testing market-based solutions to increase the flexibility and efficiency of the energy system; accelerating the adoption of low carbon solutions.

Supporting consumers in vulnerable situations:

Exploring how best to support the needs of consumers who find themselves in vulnerable situations, today and in the future, to enable a just transition.

Optimised assets and practices:

Developing and implementing industry-leading techniques for optimising assets and practices.

Data and digitalisation:

Developing new data services and applying data science methods to harness the power of digitalisation to solve both system operation and wider stakeholder challenges.

THE PROCESS OF DEFINING FOCUS AREAS

- During the workshops, stakeholders were asked to select, or were assigned to, breakout rooms to discuss and define focus areas for each of the six network innovation themes.
- The previous 2020 focus areas were presented to stakeholders for each theme as a "starter for ten".
- These were reviewed and edited, and additional focus areas were proposed by the participants.
- Where possible, we asked stakeholders to consider the holistic energy system by highlighting focus areas that are relevant to both the gas and electricity networks. However, it was recognised that some focus areas may be specific to either gas or electricity.
- Suggested changes and additional focus areas were fed back afterwards to the wider workshop, and participants were asked to vote on these using a polling system.
- The results from the two workshops have been collated, and the top five focus areas for each theme are presented in this report.
- Due to the nature of online voting, the top five focus areas have been supplemented with conclusions drawn from the breakout room discussions to create a recommended list of innovation focus areas.

Workshops

Presented the 2020 focus areas for each theme

↓

Discussed, revised and made additions in the breakout groups

↓

Polls enabled all participants to vote on the most important focus areas

↓

Shortlisted five key focus areas for each innovation theme

↓

Reviewed breakout room discussions to finalise focus areas

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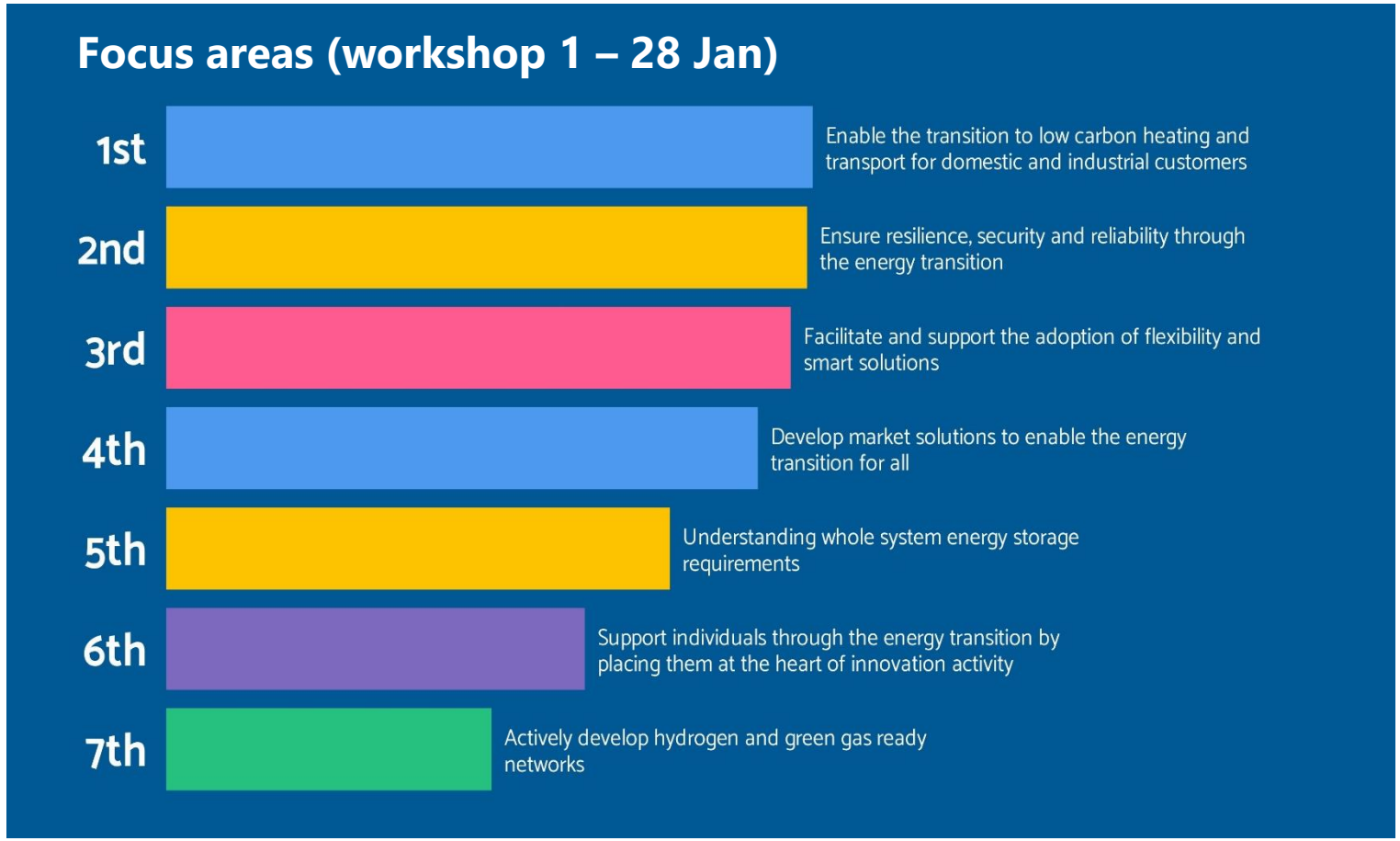
NET ZERO AND THE ENERGY SYSTEM TRANSITION: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "net zero and the energy system transition" theme, agreeing seven focus areas to take forward.
- The top four ranked focus areas were fairly close in score, with c. 72% of voters choosing one of these as the most important focus areas.
- "Actively develop hydrogen and green gas networks" received the lowest score, with only 3% of voters selecting this as the most important focus area.
- The workshop was dominated by technology companies and consultancies, that ranked "flexibility and smart solutions" highest, while representation from community energy groups was limited.
- Discussion topics in the breakout rooms also included:
  - The support needed for consumers and the importance of the transition being designed to include people.
  - The role of hydrogen in achieving net zero emissions.
  - The need to understand the requirements of the system, in order to make it resilient and ensure the system can cope with future peak demand.



NET ZERO AND THE ENERGY SYSTEM TRANSITION: 2 FEB

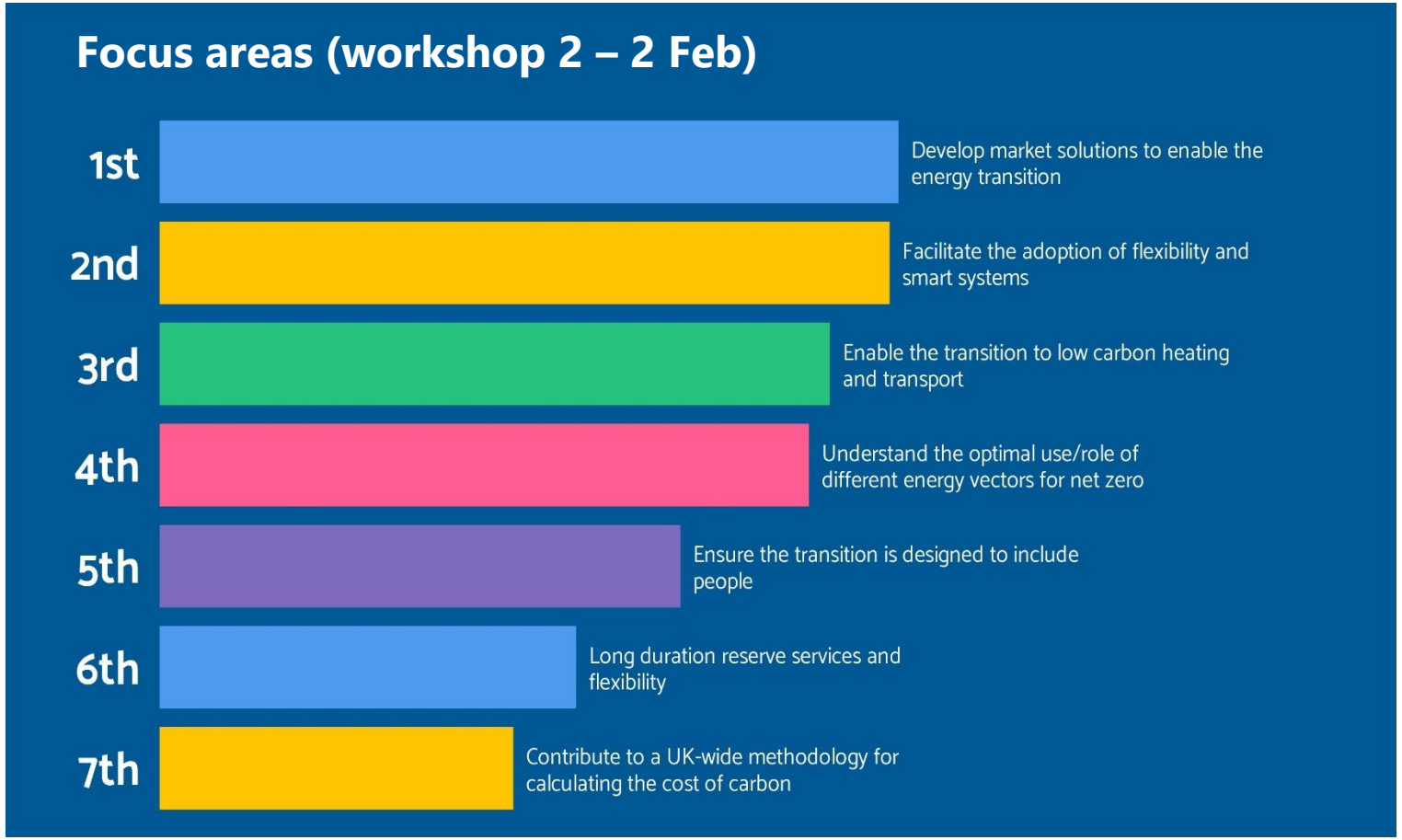
- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "net zero and the energy system transition" theme, agreeing seven focus areas to take forward.

- The top four ranked focus areas were fairly close in number of votes, with c. 73% of voters selecting one of these as the most important focus area.

- "Contribute to a UK-wide methodology for calculating the cost of carbon" received the lowest score, with only 5% of voters selecting this as the most important focus area.
    - However, this was a key focus of conversation in both breakout rooms during the workshop.

- The workshop was dominated by technology companies, that ranked "long duration reserve services and flexibility" highest, followed by "understand the optimal use of different energy vectors". Academia and research organisations tended to rank "ensure the transition is designed to include people" the highest.

- Discussion topics in the breakout rooms also included:
    - The need for consumer behavioural change and the support required to enable this.
    - Calculating and prioritising the carbon impact of innovation projects.
    - Cross-vector optimisation to understand how different energy vectors can work together to achieve net zero emissions.



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NET ZERO AND THE ENERGY SYSTEM TRANSITION: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Facilitate and support the adoption of flexibility and smart systems***
  - This focus area was based on one from 2020 and came up in both workshops, with 30 attendees across the two workshops voting this as the most important focus area.
  - "Support" was added to highlight the role of the networks in achieving net zero emissions.

- ***Develop market solutions to enable the energy transition for all***
  - All four breakout rooms discussed the role of market solutions, with 7 and 15 first ranking votes in the two workshops.
  - Stakeholders felt "for all" should be included for 2022 to represent the need to bring people along on the journey.

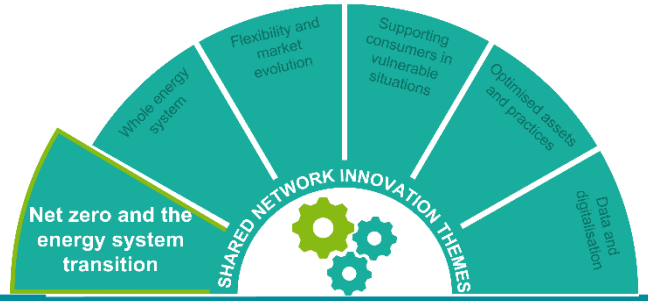
- ***Enable the transition to low and zero carbon heating and transport for all consumers***
  - This focus area gained 19 votes as the most important focus area across the two workshops, with 22 voting it the second most important.
  - The inclusion of "for all users" was requested to encompass both domestic and industrial consumers.

- ***Explore the optimal use of different energy vectors in the energy system transition***
  - This focus area combines several themes from the 2020 strategy, and discussions across the two workshops around understanding whole system requirements to ensure resilience and support cross-vector solutions. This aligns with the updated shared network strategy, as it invites networks to work together to support complimentary solutions and technologies.

- ***Support all consumers to engage in the energy system transition***
  - This combines the focus areas of "ensure the transition is designed to include people" and "support individuals through the energy transition by placing them at the heart of innovation activity", as well as capturing key topics of conversation around the need for behavioural change in consumers. These focus areas collectively had 21 votes as the most important focus areas.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Facilitate and support the adoption of flexibility and smart systems
- Develop market solutions to enable the energy transition for all
- Enable the transition to low and zero carbon heating and transport for all consumers
- Explore the optimal use of different energy vectors in the energy system transition
- Support all consumers to engage in the energy system transition



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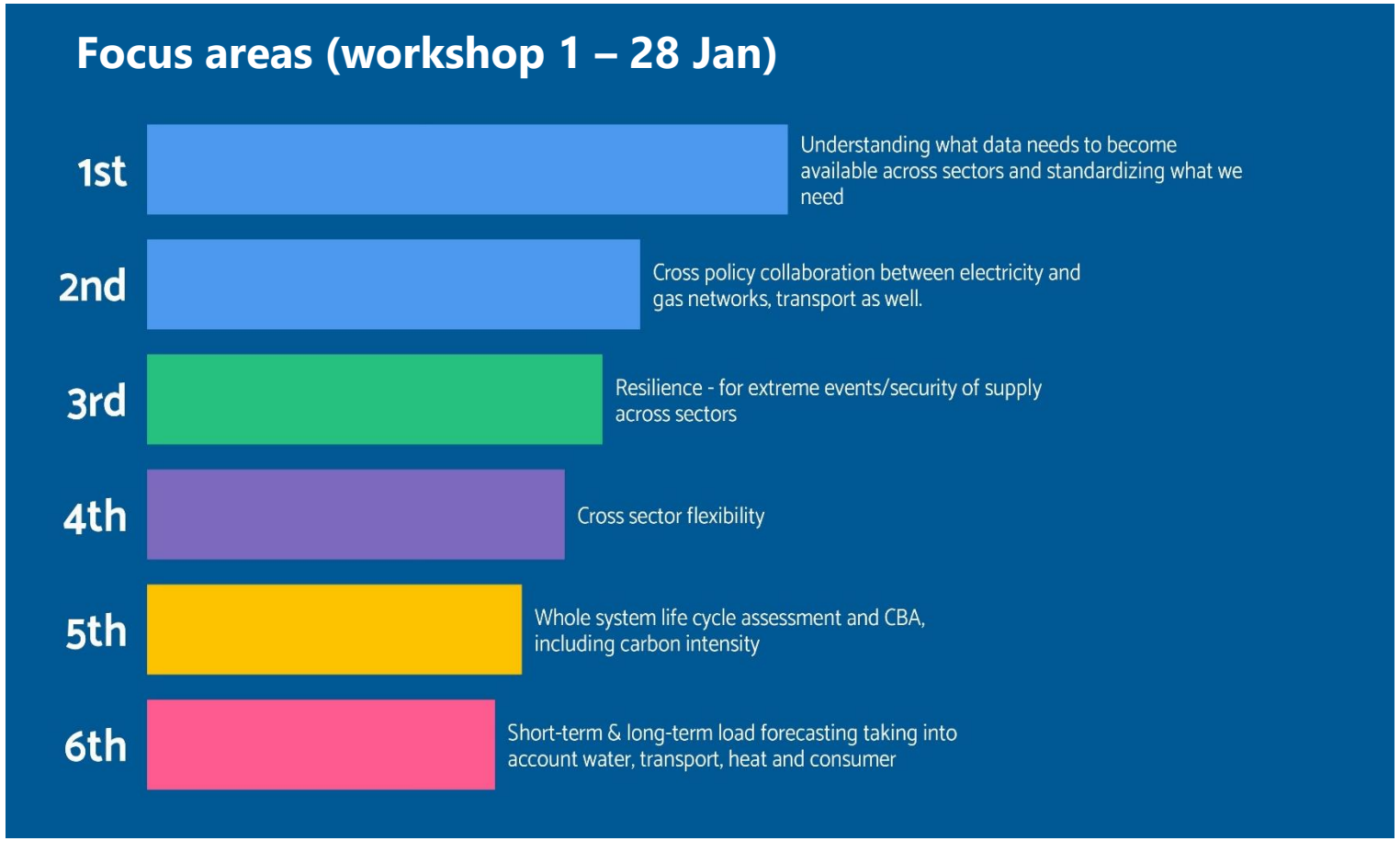
WHOLE ENERGY SYSTEM: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "whole energy system" theme, agreeing six focus areas to take forward.
- The top ranked focus area was significantly more popular than the second-highest ranking focus area, with 31% of voters choosing this as the most important focus area.
- "Short-term and long-term load forecasting taking into account water, transport, heat and consumers" received the lowest score, with only 5% of voters selecting this as the most important focus area.
- The workshop was dominated by technology companies and consultancies, that ranked "cross policy collaboration" as the most important focus area, while community energy groups, which were less well represented, ranked "resilience" highest.
- Discussion topics in the breakout rooms also included:
  - Improving the access to, and visibility of, energy data.
  - The need to develop a whole system coordinated cost benefit analysis and life cycle assessments for carbon emissions.
  - Designing a system that ensures security of supply.
  - Exploring innovation crossovers between different technologies.



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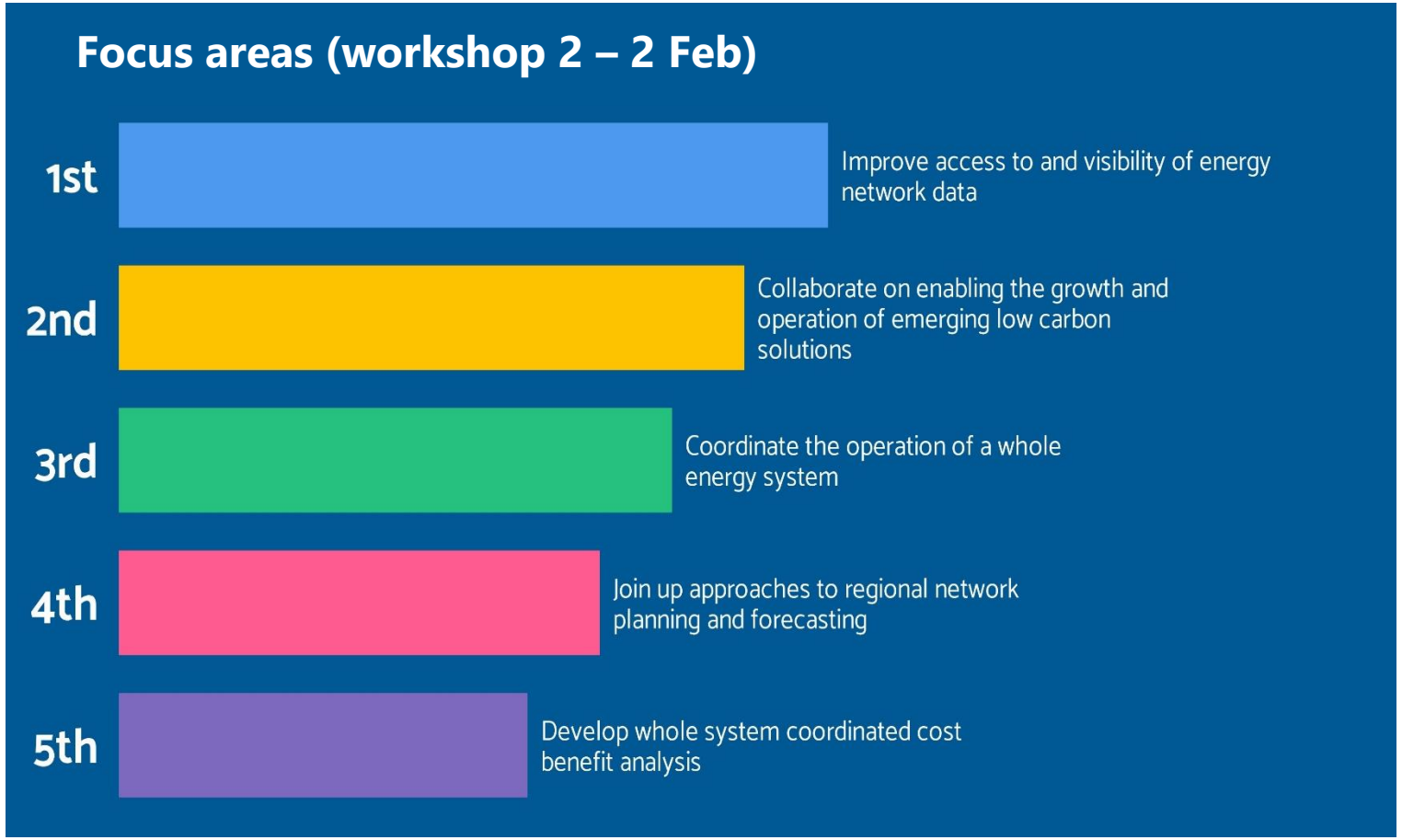
WHOLE ENERGY SYSTEM: 2 FEB

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "whole energy system" theme, agreeing five focus areas to take forward.
- The five focus areas were fairly evenly staggered, with 63% of voters selecting one of the top two as the most important focus area.
- "Develop whole system coordinated cost benefit analysis" received the lowest score, with only 8% of voters selecting this as the most important focus area.
  - However, this was a key focus of conversation in both breakout rooms during the workshop.
- "Improve access to, and visibility of, energy network data" was well supported by all sectors, including technology companies, consultancies, networks and academia. Consultancies and technology companies also supported "collaborate on enabling the growth of low carbon solutions".
- Discussion topics in the breakout rooms also included:
  - Understanding regional characteristics and requirements, as well as national network planning.
  - Inclusion of life cycle emissions modelling weighed against cost benefit analysis.
  - The need for cross-sector and cross-vector collaboration and optimisation.
  - The coordination and operation of a whole energy system.



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WHOLE ENERGY SYSTEM: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Explore data sharing opportunities between networks companies and with other service providers***
  - This focus area came up in both workshops, with stakeholders highlighting the need to understand what data is needed. Stakeholders said this was a priority, as a lot of other themes depend on this. This was the highest scoring focus areas in both workshops.

- ***Coordinate the operation of a whole energy system through collaboration***
  - Collaboration was a key theme across all discussions, including between networks, sectors and energy vectors, which received 14 and 8 votes as the most important focus areas in the first and second workshop, respectively.

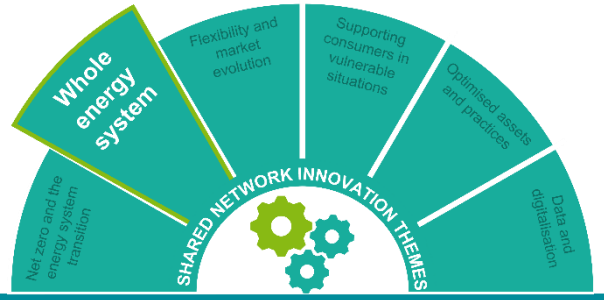
- ***Join up approaches to regional network planning and forecasting***
  - Regional network planning and load forecasting was discussed in both workshops, which links to the data and digitalisation theme. Understanding and modelling the energy system is key to enabling net zero emissions. While this focus area didn't get as many votes as the most important focus area, it was regularly voted the second most important.

- ***Develop a whole system life cycle assessment approach***
  - While a whole system cost benefit analysis was featured as a focus area in 2020, stakeholders in the 2022 workshops felt that it was just as, if not more, important to develop a whole system life cycle assessment, including scope 2 and 3 emissions, to ensure projects have limited environmental impact.

- ***Collaborate on enabling the growth and operation of low and zero carbon solutions***
  - This focus area was only put forward in the second workshop but was the second-highest ranking focus area. It was highlighted that a range of practices across industries is needed, and this is where collaboration comes in. The term "emerging" has been removed from the 2020 focus area, so as not to limit the work in this space.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Explore data sharing opportunities between networks companies and with other service providers
- Coordinate the operation of a whole energy system through collaboration
- Join up approaches to regional network planning and forecasting
- Develop a whole system life cycle assessment approach
- Collaborate on enabling the growth and operation of low and zero carbon solutions



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FLEXIBILITY AND MARKET EVOLUTION: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "flexibility and market evolution" theme, agreeing seven focus areas to take forward.
- The top ranked focus area, "enable domestic flexibility, local energy markets, EVs, smart charging and heat" has 27 votes (53% of voters) as either the most important or second-most important focus area.
- "Develop commercial arrangements for connecting and supplying hydrogen" received the lowest score, with only 4% of voters selecting this as the most important focus area.
  - However, this may be due to the background and experience of the attendees to this workshop.
- There was strong agreement on the top three focus areas across the different sectors. Government representatives were more likely to rank "develop commercial arrangements for hydrogen" higher than other sectors.
- Discussion topics in the breakout rooms also included:
  - Interoperability and collaboration between local and national markets.
  - The importance of hydrogen in net zero
  - Maximising the opportunities of smart meters, data and network charging reforms.
  - Ensuring consumers can access the full benefits of flexibility.

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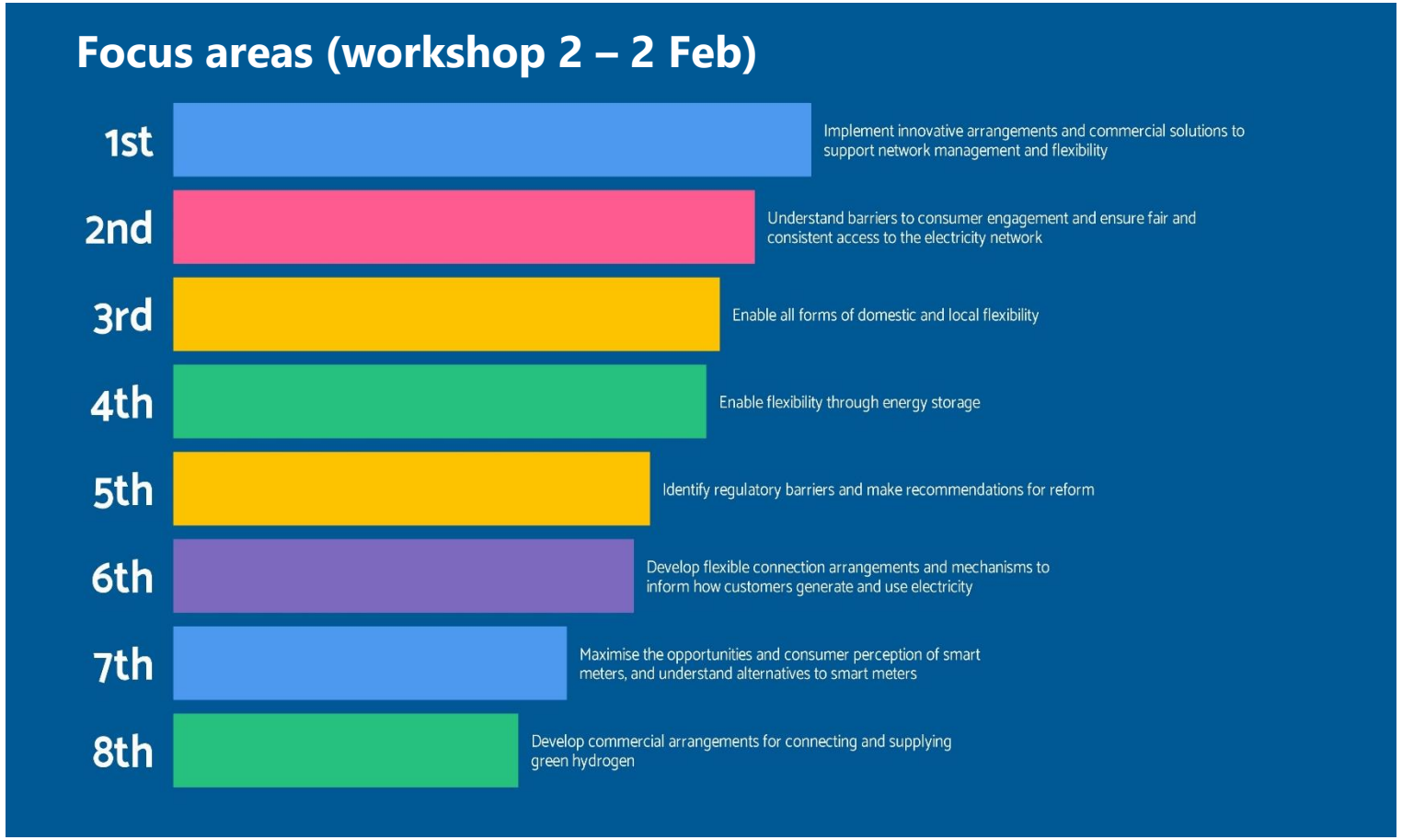
FLEXIBILITY AND MARKET EVOLUTION: 2 FEB

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "flexibility and market evolution" theme, agreeing eight focus areas to take forward.
- The top four ranked focus areas were fairly close in number of votes, with c. 72% of voters selecting one of these as the most important focus area.
- "Develop commercial arrangements for connecting and supplying green hydrogen" received the lowest score, with only 7% of voters selecting this as the most important focus area.
    - However, this was a key focus of conversation in both breakout rooms during the workshop and may have been unfavourably voted due to the sector representation in the workshop.
- Votes from technology companies were very varied, with all focus areas, minus "identify regulatory barriers", being ranked first by at least one representative. In contrast, industry associations/non-profits ranked this focus area higher.
- Discussion topics in the breakout rooms also included:
    - Understanding the barriers to consumer engagement.
    - Maximising the opportunities of smart meters.
    - Enabling different forms of domestic and local flexibility.
    - The need to develop commercial arrangements to support green hydrogen.



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FLEXIBILITY AND MARKET EVOLUTION: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Simplify flexibility market structures and eliminate barriers to entry for smaller market entrants***
  - This focus area was discussed in both workshops, with stakeholders voting to make it broader so as not to specify particular technologies. Across the two workshops, 20 stakeholders voted for this as the most important focus area, with 24 voting for it as second-most important.

- ***Trial and implement innovative arrangements and market-based solutions to support network management and flexibility***
  - Carried over from the 2020 strategy, stakeholders were in support of using innovation to trial new arrangements for network management and flexibility, with the inclusion of "market-based solutions" to represent the need for new arrangements to work within current markets. 21 stakeholders across the two workshops ranked this the most important focus area.

- ***Support all consumers to fairly participate in and benefit from flexibility markets***
  - The role of consumers was a key area of discussion across all the themes, with stakeholders discussing the need for networks to understand the barriers to consumer engagement and to address these to ensure fair and consistent access to the networks. This was the second-most voted for focus area in the second workshop.

- ***Identify regulatory barriers and make recommendations for reform***
  - Stakeholders agreed that this focus area was still relevant for 2022 and was picked out as an obvious focus area. While this was not the highest ranked focus area, it was consistently voted for across the two workshops.

- ***Develop commercial arrangements for connecting and supplying green hydrogen***
  - The production and supply of green hydrogen is a key element of flexibility for the gas networks and future commercial arrangements could allow them to dynamically respond to peaks in demand. While this did not score highly during the Menti voting, it was a key area of discussions in the breakout rooms and is an important focus area for the gas and electricity networks.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Simplify flexibility market structures and eliminate barriers to entry for smaller market entrants
- Trial and implement innovative arrangements and market-based solutions to support network management and flexibility
- Support all consumers to fairly participate in and benefit from flexibility markets
- Identify regulatory barriers and make recommendations for reform
- Develop commercial arrangements for connecting and supplying green hydrogen

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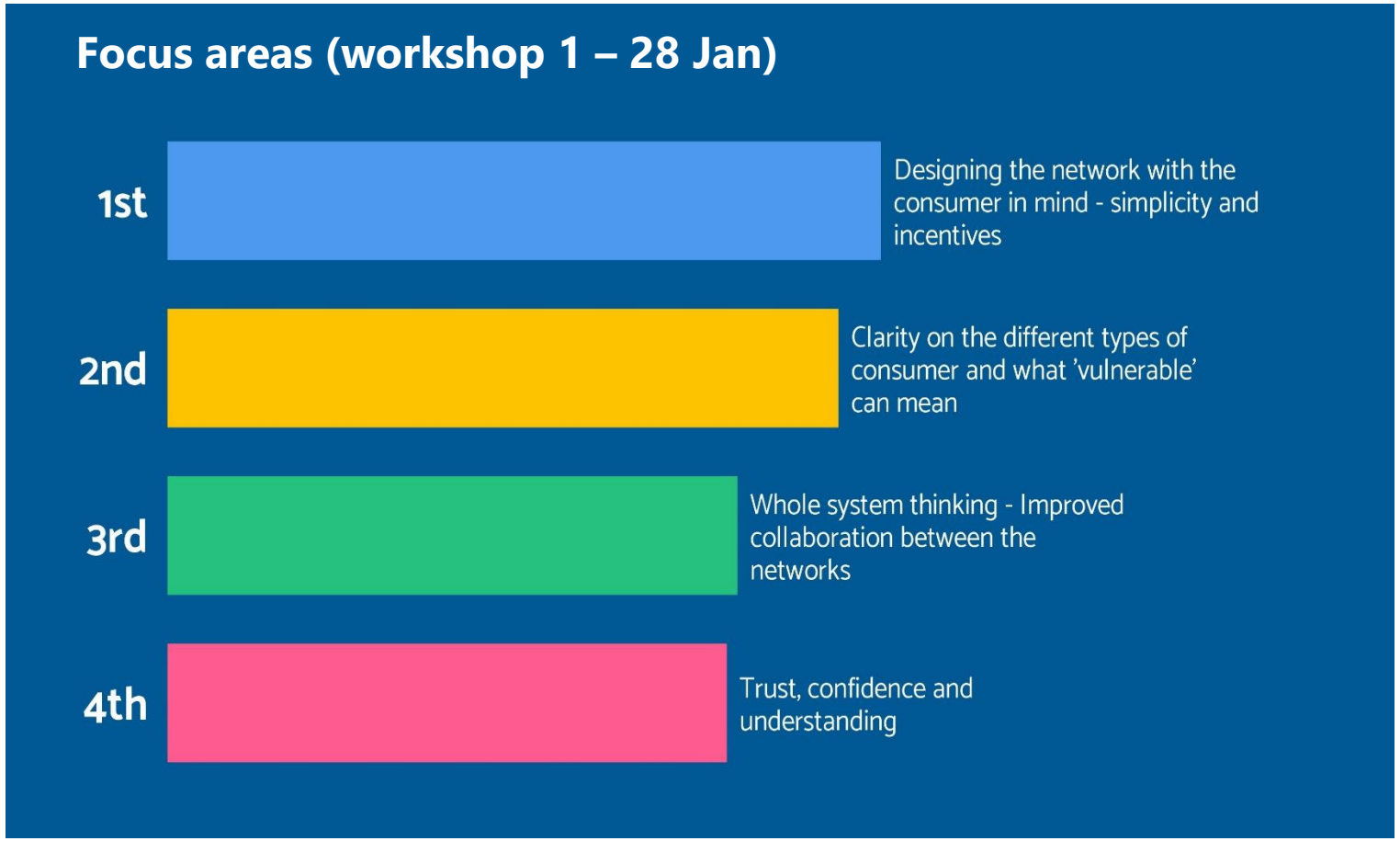
SUPPORTING CONSUMERS IN VULNERABLE SITUATIONS: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "supporting consumers in vulnerable situations" theme, agreeing four focus areas to take forward.
- The four focus areas were all scored fairly closely by the stakeholders, with "trust, confidence and understanding" being voted the most important focus area by 21% of voters, and "clarity on what vulnerable can mean" receiving 29% of the votes.
- "Clarity on what vulnerable can mean" received the widest range of votes, with voters ranking in it in each of the four positions.
- There was a range of responses across the workshop, with many sectors having representatives vote for each of the four focus areas as the most important. This resulted in very similar scores across the focus areas.
- Discussion topics in the breakout rooms also included:
  - Understanding that vulnerability is transitional, and that networks have to adapt their support appropriately.
  - The role of the consumer in the networks and how this will change in the future.
  - The need to understand who are the vulnerable consumers in the first place.
  - Adopting heat as a service to better protect consumers in vulnerable situations.



SUPPORTING CONSUMERS IN VULNERABLE SITUATIONS: 2 FEB

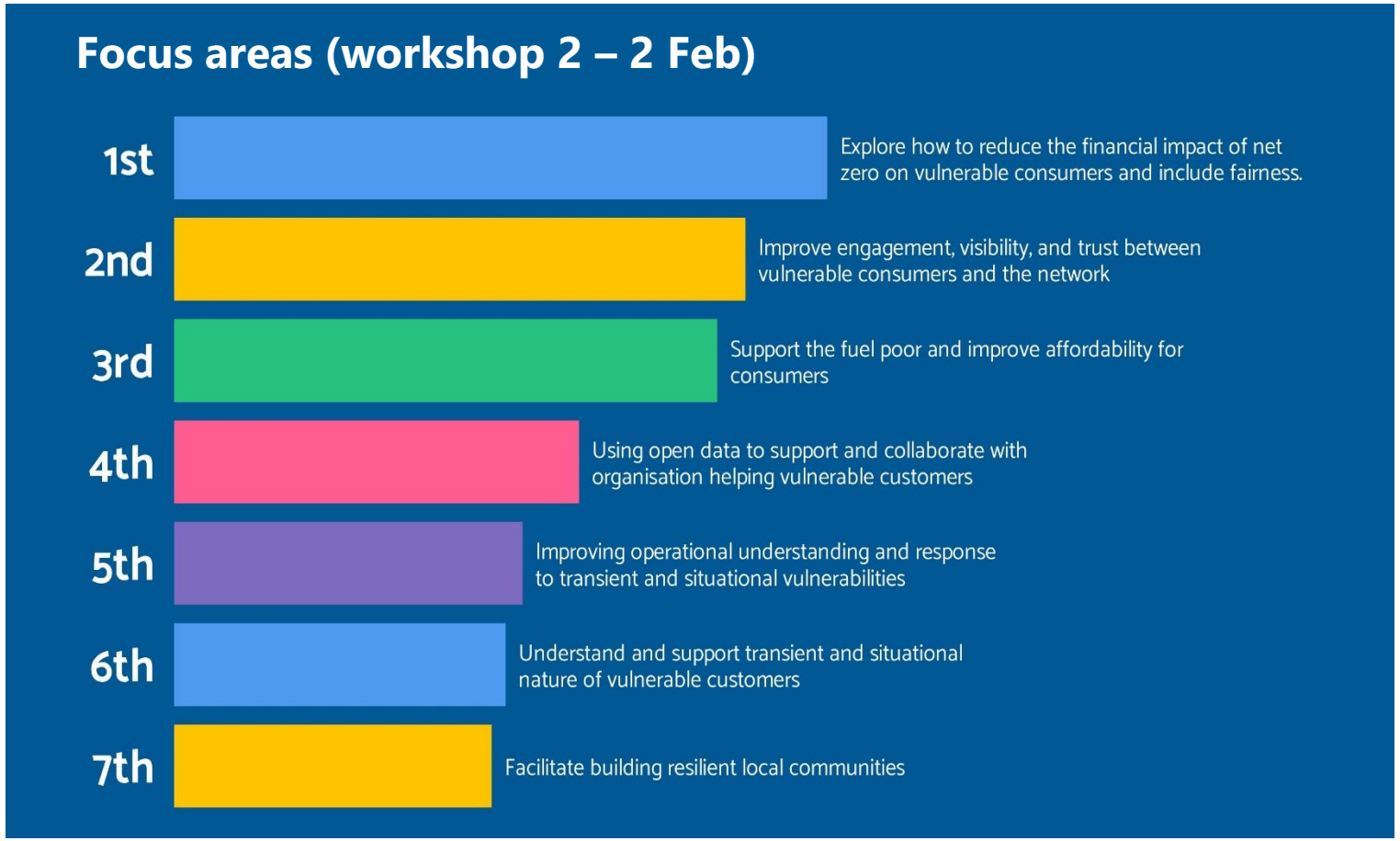
- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "supporting consumers in vulnerable situations" theme, agreeing seven focus areas to take forward.

- The top three ranked focus areas were fairly close in the number of votes, with c. 77% of voters selecting one of these as the most important focus area.

- "Facilitate building resilient local communities" received the lowest score, with only 8% of voters selecting this as the most important focus area.
    - However, this was a key focus of conversation in both breakout rooms during the workshop.

- Generally, most sectors were in favour of "explore how to reduce the financial impact of net zero" and "support the fuel poor". Technology companies were more likely to support "using open data" than other sectors.

- Discussion topics in the breakout rooms also included:
    - The need for more accurate data on consumers in vulnerable situations, e.g. through a more regular update of the priority service register.
    - Supporting consumers in vulnerable situations being entwined will all other themes.
    - The sharing of learning between networks.
    - Improving engagement, visibility and trust between consumers and the networks.



SUPPORTING CONSUMERS IN VULNERABLE SITUATIONS: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Understand and support the transient and situational nature of vulnerability***
  - This focus area was talked about the most across the two workshops, looking at the need to properly understand what "vulnerable" means and supporting consumers in their journeys. An element of this focus area is having better visibility of consumers in vulnerable situations.

- ***Explore how to reduce the financial impact of net zero on consumers in vulnerable situations***
  - This focus area, carried over from the 2020 strategy, is evidently a key priority for stakeholders. Workshop attendees saw the role of the networks as supporting consumers in vulnerable situations to ensure the transition to net zero is fair for all consumers. 17 stakeholders voted this focus area as the most important in the second workshop, with another 9 voting it as the second-most important.

- ***Understand how network companies can support the fuel poor and improve affordability for consumers***
  - This focus area received 12 votes as the most important focus area in the second workshop, as well as 10 votes as the second most important. It was a key area of discussion, with many attendees highlighting the need for the networks to protect the most vulnerable consumers, particularly in light of the recent energy bill crisis.

- ***Improve network engagement with consumers in vulnerable situations to build on and strengthen trusted relationships***
  - Across both workshops, the need for consumers to trust and have confidence in the networks was clear. The need for understanding from both sides was also raised, particularly as consumers are more used to dealing with suppliers than the networks. 23 stakeholders voted this as the most important focus area.

- ***Collaborate with appropriate organisations to better support consumers in vulnerable situations***
  - Stakeholders highlighted the opportunity for networks to partner and collaborate with organisations already working with consumers in vulnerable situations, to increase knowledge and data sharing and expand the impact that networks can have.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Understand and support the transient and situational nature of vulnerability
- Explore how to reduce the financial impact of net zero on consumers in vulnerable situations
- Understand how network companies can support the fuel poor and improve affordability for consumers
- Improve network engagement with consumers in vulnerable situations to build on and strengthen trusted relationships
- Collaborate with appropriate organisations to better support consumers in vulnerable situations

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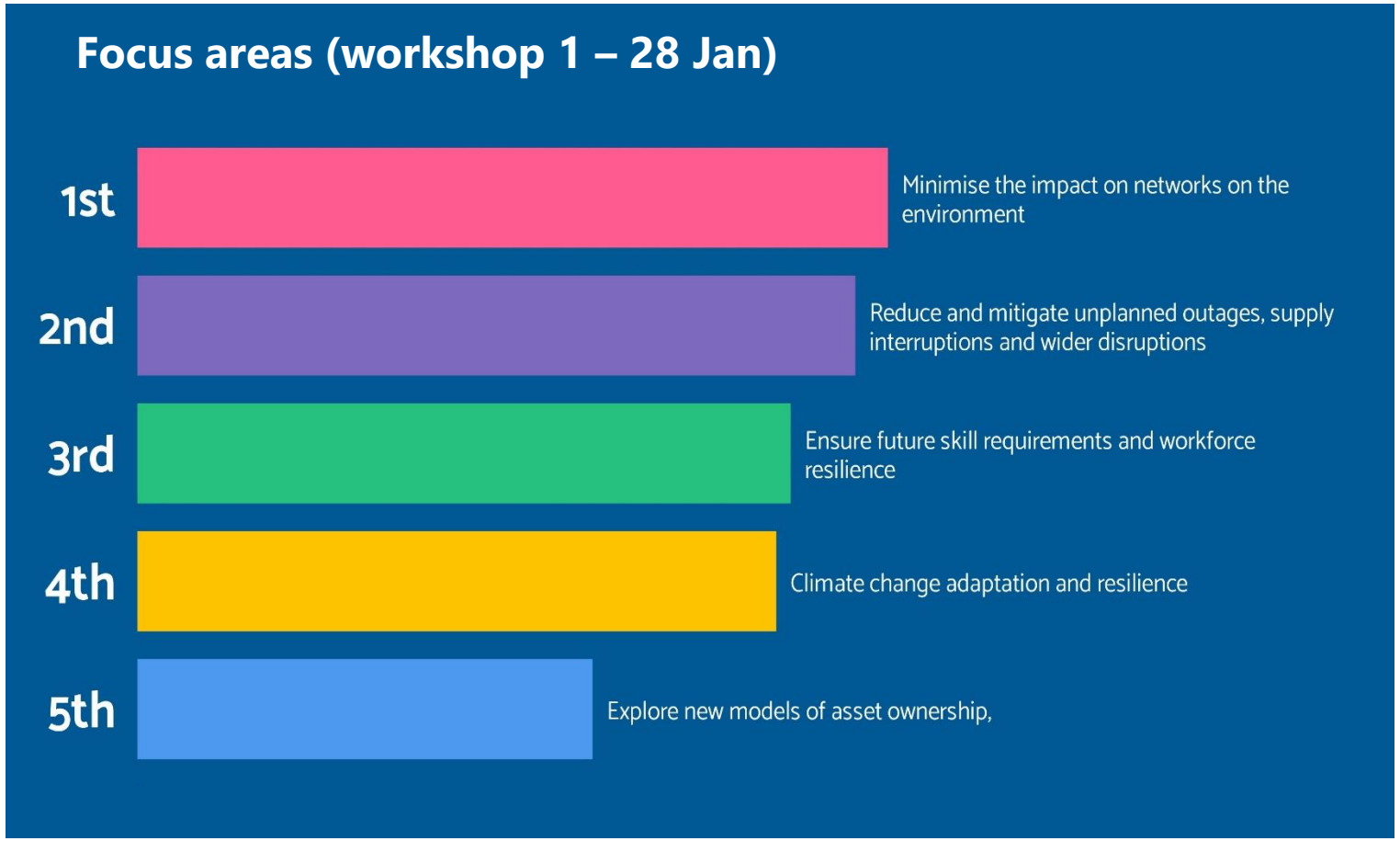
OPTIMISED ASSETS AND PRACTICES: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "optimised assets and practices" theme, agreeing five focus areas to take forward.
- The top two ranked focus areas were fairly close in score, with c. 58% of voters choosing one of these as the most important focus areas.
- "Explore new models of asset ownership" received the lowest score, with only 8% of voters selecting this as the most important focus area.
- The workshop was dominated by technology companies, which ranked "reduce and mitigate unplanned outages" highest, and consultancies, which ranked "minimise the impact on the environment" highest. Community energy groups, which were less well represented in the workshop, tended to support "explore new models of asset ownership" more than other sectors.
- Discussion topics in the breakout rooms also included:
  - Better knowledge of true embedded costs of the networks.
  - Cross-sector and cross-vector collaboration to share learnings.
  - The need for champions to drive new approaches forward into the workforce.
  - Thinking about what a future energy network will look like, rather than being focused on today's networks.



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OPTIMISED ASSETS AND PRACTICES: 2 FEB

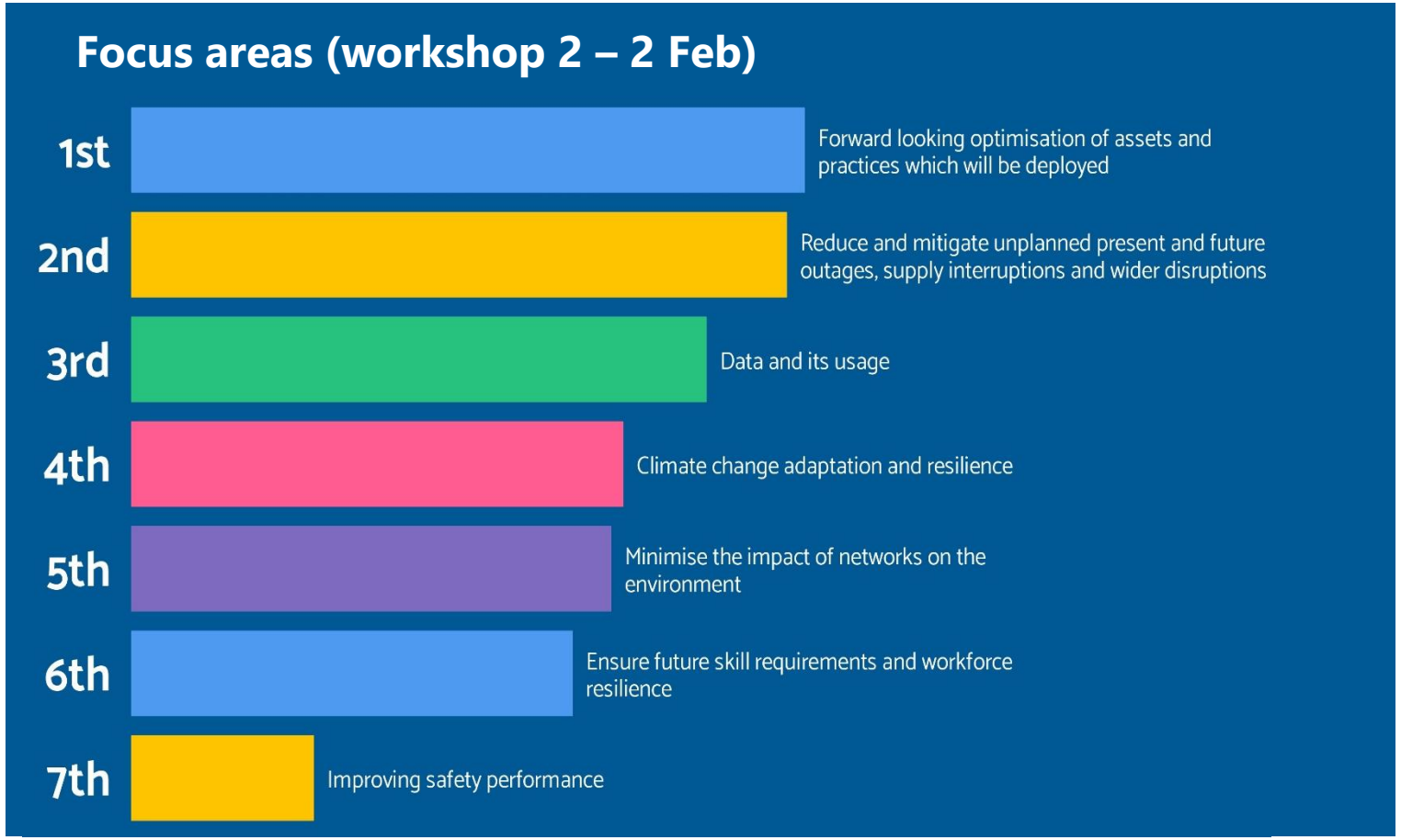
- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "optimised assets and practices" theme, agreeing seven focus areas to take forward.

- The top two ranked focus areas were fairly close in score, with 12 and 13 votes as the most important focus area, respectively.

- "Improving safety performance" received the lowest score, with only 2% of voters selecting this as the most important focus area.
  - Although this was discussed in the workshop, it was felt that this was more attributed to business-as-usual operations rather than innovation activity.

- Support from sectors was quite consistent across the top four focus areas. Community energy organisations, which were less well represented in the workshop than other sectors, ranked "ensure future skill requirements" as the most important focus area.

- Discussion topics in the breakout rooms also included:
  - Optimising the future network and appreciating that the nature of power outages are likely to change in the future.
  - Data and its usage.
  - Retaining skills and creating a resilient workforce.
  - The crossover between business-as-usual and innovative assets and practices.



OPTIMISED ASSETS AND PRACTICES: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Reduce and mitigate unplanned present and future outages, supply interruptions and wider disruptions***
  - This focus area has been carried over from the 2020 strategy, with both workshops shortlisting it as a key focus area. It was the second-highest ranking focus area in both workshops.
  - "Present and future" was included to represent the changing needs and behaviour of the networks and the need to plan for the future.

- ***Minimise the impact of networks on the environment***
  - This was voted the most important focus area in the first workshop. This was discussed in both workshops, including the need to reduce the impact from all aspects of the network and its supply chain.

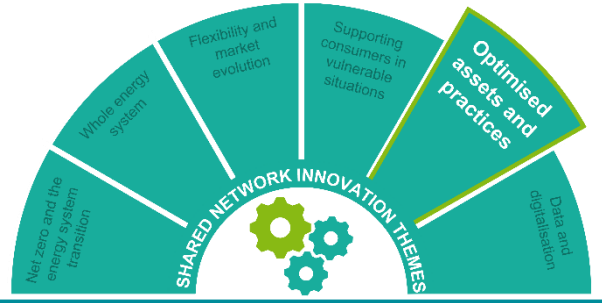
- ***Ensure the networks are resilient and adaptable to climate change***
  - Stakeholders thought it was important to model the impact of climate change on the networks and investigate how they can be made more resilient. This was regularly voted the first, second or third most important focus area by stakeholders.

- ***Test and explore innovative methods to train and upskill the workforce***
  - Training up a skilled workforce was mentioned in discussions across many themes, but best sits under optimised assets and practices. This includes using innovation to train up a multi-skilled workforce to work across the energy sector.

- ***Explore how to future-proof assets and practices***
  - Stakeholders were clear that the networks need to look to the future and consider what assets and practices will be needed and how these can be optimised, rather than just looking at today's network. This was the top ranked focus area in the second workshop.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Reduce and mitigate unplanned present and future outages, supply interruptions and wider disruptions
- Minimise the impact of networks on the environment
- Ensure the networks are resilient and adaptable to climate change
- Test and explore innovative methods to train and upskill the workforce
- Explore how to future-proofe assets and practices



DATA AND DIGITALISATION: 28 JAN

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "data and digitalisation" theme, agreeing seven focus areas to take forward.
- The top four ranked focus areas were fairly close in score, with c. 75% of voters choosing one of these as the most important focus areas.
- "Ensuring clarity of what the data will be used for" was the focus area most commonly ranked in first place, with 14 votes; however, it was also voted as least important by 5 voters.
- "Data processing from new sources of data" received the lowest score, with only 7% of voters selecting this as the most important focus area.
- Feedback from technology companies was wide-ranging, with five of the seven focus areas voted most important by at least one sector representative.
- Discussion topics in the breakout rooms also included:
  - The importance of employing ethical data practices and privacy techniques for consumer data.
  - Always having a clear use-case and not using and gathering 'data for data's sake'.
  - Network data needs to continue to be open accessible and standardised (where possible) and strive for cross-industry interoperability.

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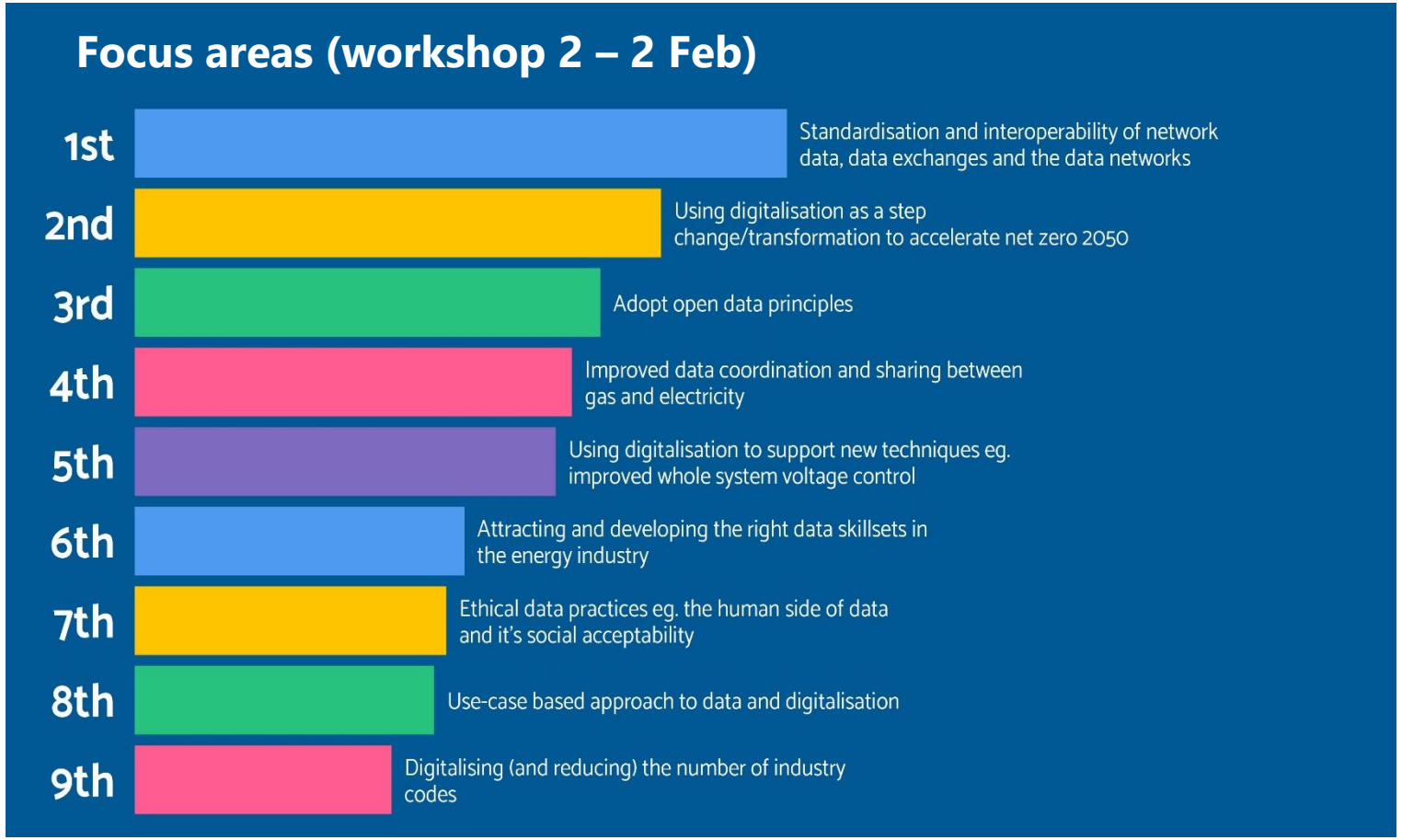
DATA AND DIGITALISATION: 2 FEB

- During the two breakout room discussions, stakeholders discussed a variety of topics related to the "data and digitalisation" theme, agreeing nine focus areas to take forward.
- The top ranked focus area, "standardisation and interoperability of network data", received the highest score, with 25% of voters selecting it as the most important focus area.
- "Using digitalisation as a step change to accelerate net zero" had 26% of voters rank it in first place, but also had many votes in the lower ranking positions.
- "Digitalising the number of industry codes" received the lowest score, with only 2% of voters selecting this as the most important focus area.
- The workshop was dominated by technology companies and consultancies, which were more likely to rank "using digitalisation as a step change" higher than other sectors. Industry associations and academia tended to support "adopt open data principles" more than other sectors.
- Discussion topics in the breakout rooms also included:
  - Standardisation and interoperability of network data is critical
  - How to attract and build the workforce skillsets required to support data and digitalisation.
  - How the networks should use digitalisation to accelerate the drive to net zero.



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DATA AND DIGITALISATION: RECOMMENDATIONS

By combining similar topics across the two workshops, the stakeholder Menti voting and reviewing the breakout room discussions, the following focus areas have been shortlisted:

- ***Ensure the standardisation and interoperability of network data***
  - The standardisation and interoperability of network data was a key area of discussion across the two workshops. It was seen as a requirement for further innovation in data and digitalisation. It received 21 votes as the most important focus area, with 16 votes as the second most important.

- ***Adopt a use-case based approach in the delivery of data-driven and future-proofed networks***
  - It was strongly agreed that data should not just be used "for data's sake" and the value of the data should be clear from the outset of data gathering. This can be further extended to the delivery of data-driven and future-proofed networks, to ensure benefits are realised.

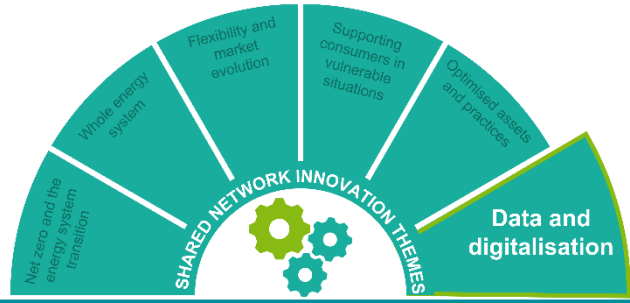
- ***Use digitalisation to support new techniques that accelerate the transformation to net zero***
  - This focus area was suggested during the second workshop, based around discussion of near-term and long-term data and digitalisation innovation, and the role that data and modelling can play in accelerating the energy transition. This was the second highest ranked focus area in the second workshop.

- ***Explore new methods of enhancing the security of all consumer data***
  - With increased use of consumer data, the security of personal information is obviously a big concern. While much of this is already covered by the networks as part of their open data commitments, innovation can be used to prepare for and protect against future cyber security threats.

- ***Test innovative methods to develop a digitally-ready workforce***
  - The adoption and delivery of digital networks will involve new data practices and techniques, which will require education and development of the existing workforce skillset. This was mentioned and discussed in both workshops.

Regen's recommendation is that the following focus areas be taken forward for further review and inclusion in the strategy:

- Ensure the standardisation and interoperability of network data
- Adopt a use-case based approach in the delivery of data-driven and future-proofed networks
- Use digitalisation to support new techniques that accelerate the transformation to net zero
- Explore new methods of enhancing the security of all consumer data
- Test innovative methods to develop a digitally-ready workforce



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STAKEHOLDER FEEDBACK

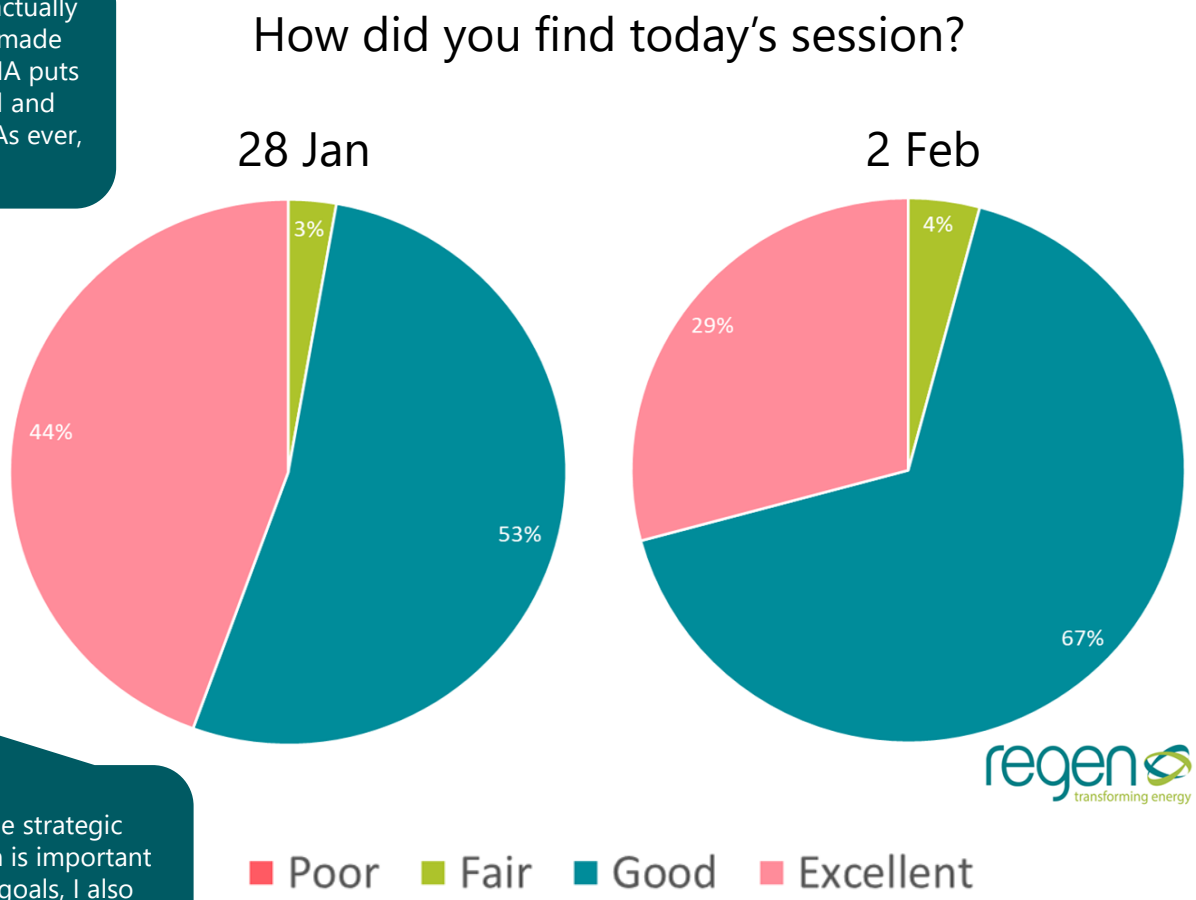
- At the end of the workshops, stakeholders were asked to provide feedback on the session.
- In the first workshop, 36 stakeholders gave feedback, with 97% of them saying they found the session "good" or "excellent". No stakeholders said the session was "poor".
- In the second workshop, 48 stakeholders gave feedback, with 96% of them saying they found the session "good" or "excellent". No stakeholders said the session was "poor".
- We also requested any verbal feedback that stakeholders wished to give on the sessions, a few examples of which are listed here.
- We gained some constructive feedback which we have attempted to address through the writing of this report and selection of focus areas:
  - "Given the short time for the workshops, some individuals spoke for a long time which muted others' opinions and considerations"
  - "There was a lot of theoretical discussion, but very little mechanical innovation discussed."
  - "This was a strategy session and focus areas thereof. Yet some wanted (and facilitators allowed) to get into minutiae of substations etc. or the merits of smart meters."

" Another superb session. I am actually on annual leave this week but made time to come to this because ENA puts on such thoughtfully designed and professionally executed events. As ever, learned heaps. "

" Well organised session. Thanks for including us. "

" A well-run and highly informative session; thank you. "

" As well as inputting into the strategic roadmap going forward, which is important if we are to achieve the UK's goals, I also gained insight from a broad spectrum of people that I had not considered. "



APPENDIX 1: FULL LIST OF PARTICIPATING COMPANIES

Accenture
Acksen Ltd
ADVA
ALH Systems
Amp X
Aplines
Applus UK Ltd
AUTOMA SRL
AVK UK Limited
Baringa Partners
BCS Utilities
BEIS
Bia Energy Consulting Limited
Bohr
Bruntwood
BUFACO Growers LTD
Cadent Gas Ltd
Caldervale Technology Ltd
Camlin
Capgemini
Capita
Cathodic Protection CO LTD
CEE
Cenex
Centre for Net Zero
Centre for Sustainable Energy
CESI
CGI
Circular Malton & Norton CIC
CNG Services Ltd
Coventry City Council
Ctrl Hub
Cundall
Dalcour Maclaren
Delta-EE
Depsys SA
DNV
Dorset Council
Downing Renewable Developments
EA Technology Ltd
ElectraLink
Electricity North West
Element Materials Technology
Elimpus Ltd
Eneida
Energency Ltd
Energetics
ENERGINEERING LTD
Energy Innovation Agency
Energy Innovation Centre
Energy Saving Trust
Energy System Catapult
Engage Consulting
Enzen Global Ltd
Eozee Limited
EPRI
ESB Networks
ESO
Esri UK
Eunomia Research and Consulting
Facilitating the Future / ABC
Fichtner
FLEXIM Instruments UK Ltd
Flexitricity
Flowassured
Frazer-Nash Consultancy
Frontier economics
FT Pipeline Systems Ltd
Fundamentals Group
Fusion Group Ltd
GATC Ltd
Globus
Go Green Engineering Ltd
Graham Oakes Ltd
Greater Manchester Combined Authority
GRIDSERVE
GW4 Alliance
Harborough Energy
Hilti (GB) Ltd
Hitachi Energy
Hive Composites Ltd
i4 Asset Management
IBM
ICCL
IGEM
Inficon Ltd
Informatica Software Ltd
Innovate UK
Intuitix
Invinity
IONATE Limited
J Murphy & Sons
JRC
King's College London
KPMG
Landis+Gyr
Levistor Ltd
Liberty Steel UK
Low Carbon Electric
Manufacturing Technology Centre (MTC)
Market Infra
Maschinenfabrik Reinhausen
Megger Ltd
Mentone Energy Consultancy Ltd
MMU
Mutual Energy
NA
National Grid
National Grid Electricity Transmission
Neuville Grid Data
NIE Networks
Northern Gas Networks
Ns Innovations Ltd
NTT DATA
One Planet Limited
Optimized Sciences
Opus One Solutions
Orxagrid
Oxford Plastics

***companies in bold also responded to the online consultation**

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APPENDIX 1: FULL LIST OF PARTICIPATING COMPANIES

Panasonic
Passiv UK
Pembrokeshire County Council
Plasson UK
PNDC
Pollywood Ltd
Power System Consultants
Project Rome
Radiance
Radius Systems
Regreen Ltd
Ricardo Energy & Environment
ROSEN(UK) Ltd
Rotaheat
RWE
Renewables UK
Saith Ltd
Salesforce
Satellite applications catapult
Schneider Electric
Sentec Ltd.
SERT LTD
SGN
Sirio
Sitigrid
Smart Actuation Ltd
Smarter Grid Solutions
Smith Institute
Solar 2 Ltd
South Hams District Council
Southend Borough Council
SP Energy Networks
Spatial Energy
Spectis Robotics Ltd
SSEN
Steer energy
STEVE VICK INTERNATIONAL LTD
Storelectric Ltd
Sygensys
Synaptec
Terranova
Threepwood Consulting
TNEI
Traxis Group Ltd
Tripwire International Inc.
TWEFDA Ltd
TWI Ltd
UCSM Ltd
UKRI/STFC - Energy Data Centre
ULC Robotics
United Utilities
University of Exeter
University of Manchester
University of Sheffield
University of Strathclyde Power Networks
Demonstration Centre
University of Sussex
University of Warwick
Vector Business Services Ltd
VPS Power
Welsh government
West Solent Solar cooperative
Wipro Ltd
Zenobe
Zero Carbon Shropshire
ZIV Automation
3M

***companies in bold also responded to the online consultation**

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4 May, 2022