Network innovation strategies
Stakeholder engagement feedback

January 2020

Contents

Introduction

The network innovation strategies
The energy network operators produced the first joint innovation strategies for gas and electricity in 2018. They are required to be updated every two years. The purpose of the strategies is to encourage collaboration, coordinated action on priority areas that offer significant potential benefit, shared learning and the minimising of duplication.

Why engage?
The network companies recognise that they don't have all the answers to the complex questions the energy industry faces. An extensive process of stakeholder engagement is, therefore, at the heart of updating these joint innovation strategies.

It is also recognised that partners are crucial to developing projects and suggesting new ideas. Therefore, the strategies need to be accessible, relevant and provide the right information to enable third parties to engage with network innovation activities.

Expert interviews → Online consultation → Webinars and round table → Stakeholder workshops
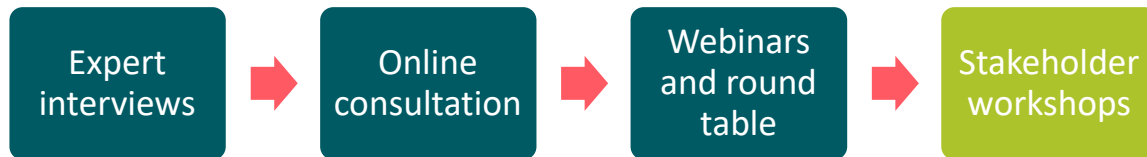
What did we do?
- Online survey ran from 11 November – 9 December with questions about engagement with innovation activities, the old strategies and proposed content of revised strategies. It was promoted through Regen's, ENAs and the network companies' networks, as well as through umbrella organisations such as Tech UK, Renewables UK, CNA, AIGT and IET
- Two webinars were delivered to provide further information about the proposed content and feedback was collected through polls
- A round table session was held at Regen's annual conference to raise awareness of the proposed content and enable discussion.

The findings
This report summarises the findings of the first stage of stakeholder engagement and Regen makes recommendations based on the feedback received. These recommendations are to be tested in the second stage of stakeholder workshops in January.

Summary of findings and Regen's recommendations

| Finding		Recommendation
Stakeholders do not find it easy to engage in innovation activities with network companies. The average score was 2.4 out of 5 (1 very difficult to 5 very easy)	→	Network companies to review and improve engagement activities related to innovation
46% had not engaged with previous strategies. Of those that did, 1/3 did not think they were useful or accessible	→	Revised strategies to be shorter, more concise and promoted widely
75% felt the gas and electricity strategies should be more closely aligned	→	Gas and electricity strategies to be more closely aligned to enable a whole energy system approach and decarbonisation
There was strong agreement with the proposed underlying principles and outcomes. The average score was 4 out of 5 (1 strongly disagree to 5 strongly agree)	→	Keep the proposed underlying principles and outcomes and not introduce additional ones, but to incorporate feedback
At least 75% of respondents agreed with each of the proposed themes	→	There is general agreement that the themes are the right ones
Two thirds (67%) stated that there were no missing themes that they would add	→	Keep the proposed themes and incorporate comments on missing themes into the descriptions of existing themes and principles where relevant
86% of respondents stated that it was useful to know the timeframes for innovation themes. However, there was not a consensus on what they should be	→	Present near-term priorities and longer-term ambitions for every theme, rather than try to categorise them as near, medium or long term
There was a mixed response on whether stakeholders find the challenge categories useful. The average score out of 5 was 2.79 (1 useless to 5 very useful)	→	The 103 existing challenge categories are retired and consideration given to identifying the top 3 challenges/focus areas per theme

Respondents

- There were 50 webinar participants that responded to polls (once those that also responded to the survey were removed to avoid duplicates)

- The webinar participants represented a wide range of different organisations with the most coming from consultancies (26%) and tech companies (18%)

- The webinar participants responded to 6 questions taken from the online survey, the results of which are incorporated into this findings report

- There were 80 survey responses with a large split across the sectors

- Similar to the webinar participation, the most survey responses came from consultancies (17%) and tech companies (21%)

- The 'Other' category represented 12% of respondents and included property developers, science and engineering journalists and other utilities

- Full list of respondents in shown in Appendix 1

Webinar participants by sector — 50
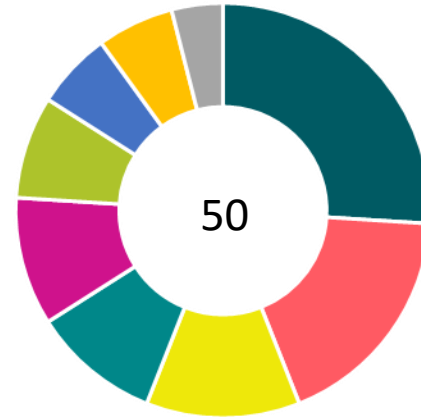
- Consultancy / advisory
- Technology company
- Government or regulation
- Energy supplier, services company or aggregator
- Community energy organisation
- Industry association / non-profit
- Academia / research organisation
- Asset owner (e.g. electricity generation)
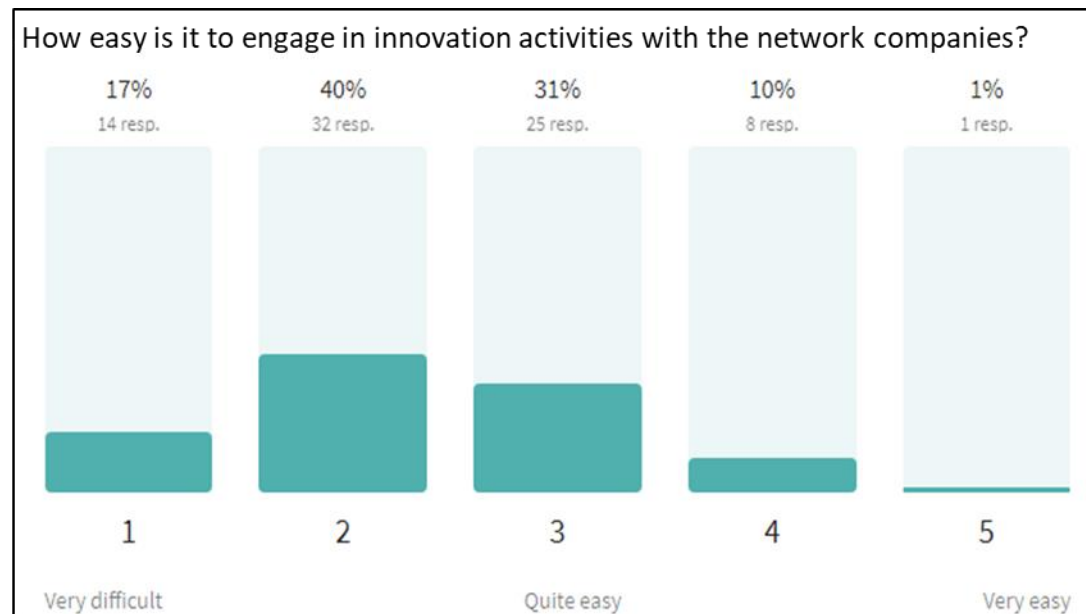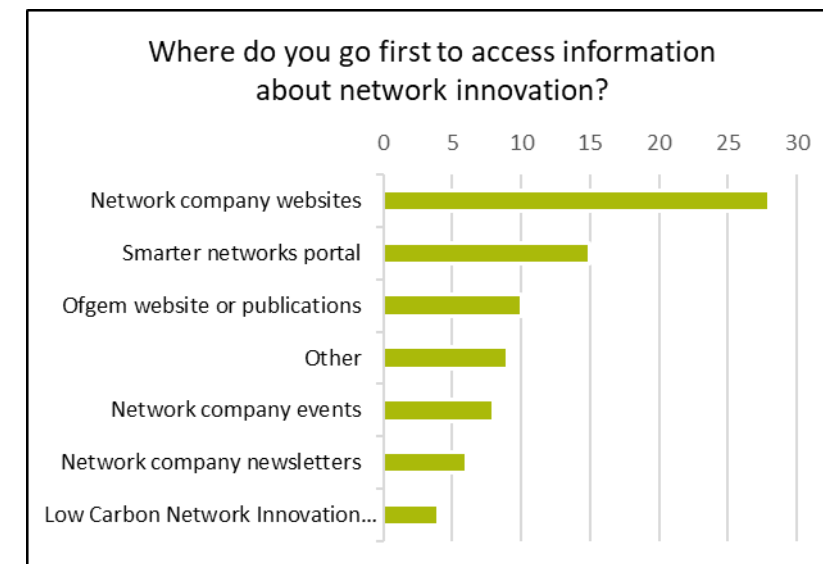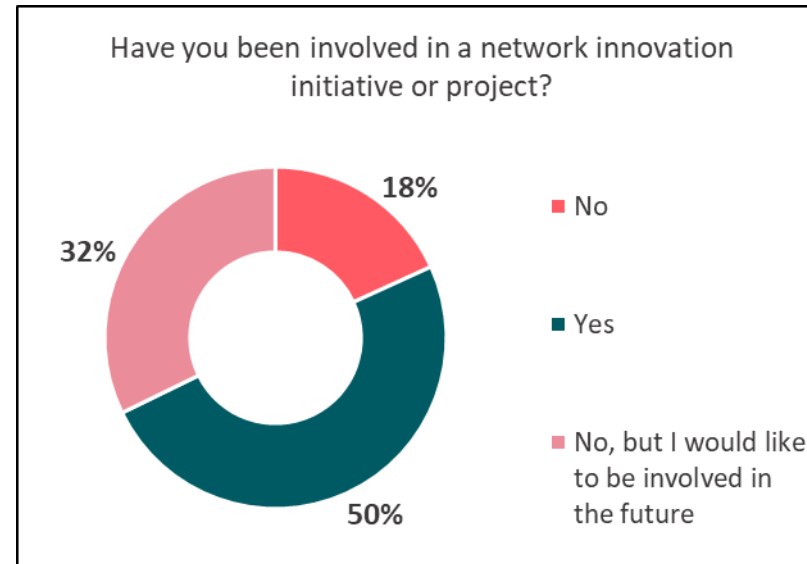- Networks (electricity or gas)

Survey participants by sector — 80
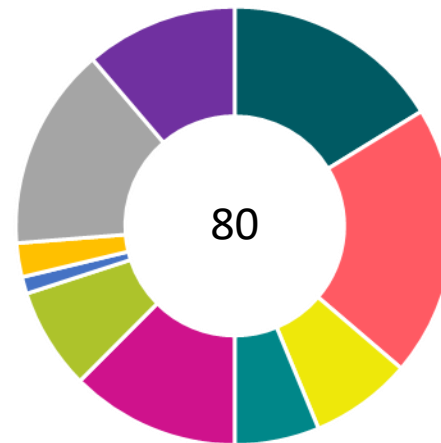
- Consultancy / advisory
- Technology company
- Government or regulation
- Energy supplier, services company or aggregator
- Community energy organisation
- Industry association / non-profit
- Academia / research organisation
- Asset owner (e.g. electricity generation)
- Networks (electricity or gas)
- Other

Engaging with innovation activities

Findings

- 50% of respondents had experience of working with network companies on innovation initiatives. A further 32% would like to get involved in the future

- Nearly half (46%) of respondents had not previously engaged with the innovation strategies (next slide)

- When asked on a scale of 1 to 5 how easy it was to engage in innovation activities, the average was 2.4. When just including those who had been involved in network innovation before, the average rose to 3 out of 5

- The most popular source of information about network innovation was the network company websites (35%) followed by the smarter networks portal (19%). The 'other' category included web searches, social media and personal experience

- A list of suggestions on what else could be done to engage companies and people in network innovation is provided in Appendix 2

Regen's recommendations

- Network companies to review and improve engagement activities related to innovation

- A guide to network innovation is produced

- A regular report provided on the innovations that turned into business as usual

Have you been involved in a network innovation initiative or project?

- 18% No
- 50% Yes
- 32% No, but I would like to be involved in the future

Where do you go first to access information about network innovation?

- Network company websites
- Smarter networks portal
- Ofgem website or publications
- Other
- Network company events
- Network company newsletters
- Low Carbon Network Innovation…

How easy is it to engage in innovation activities with the network companies?

17% 14 resp.	40% 32 resp.	31% 25 resp.	10% 8 resp.	1% 1 resp.
1	2	3	4	5

Very difficult — Quite easy — Very easy

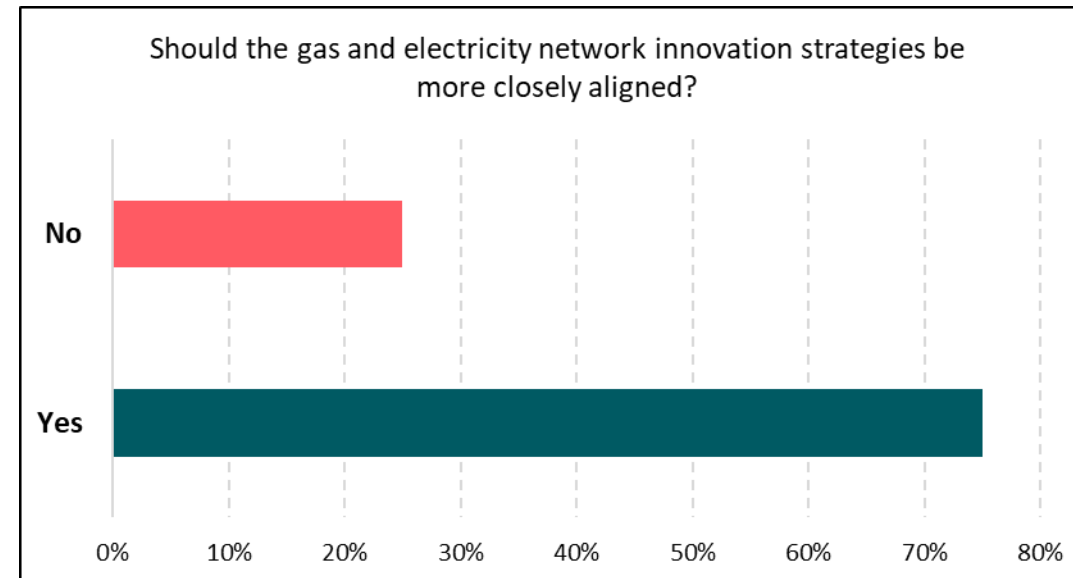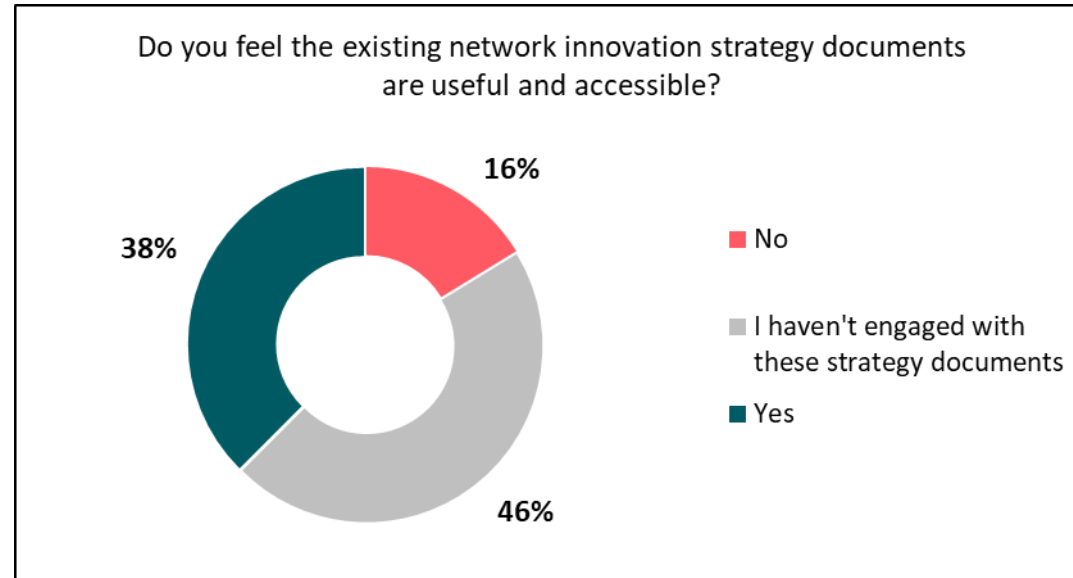### What else could be done to engage companies and people in network innovation?

- Produce a guide to network innovation
- Assist start-ups and community groups to get involved
- Improve the Smarter Networks Portal
- Better use of webinars, social media, videos, existing events and comms through trade associations
- Greater clarity and transparency on how ideas become business as usual

Existing strategies

Findings

- Nearly half (46%) of respondents had not previously engaged with the innovation strategies and 22% stated that they did not know of their existence

- 38% found the existing strategies useful. 10% found them accessible and clear and 13% stated that they provided a useful overview of innovation goals, themes and priorities

- 16% did not find the strategies useful. Reasons stated for why respondents felt the documents were not useful included too long, jargon heavy and too high level

- Three quarters of survey respondents and webinar participants stated that the gas and electricity strategies should be more closely aligned. For those that provided a reason why, 23% said to enable a whole energy system approach, 15% to enable decarbonisation and 8% to be more cost effective

- One quarter felt they should not be aligned. The main reasons provided were that the two sectors are too different (11%) and that gas supply will need to be minimised (10%)

Regen's recommendations

- Revised strategies to be shorter, more concise and promoted widely

- Gas and electricity strategies to be closely aligned to enable a whole energy system approach to decarbonisation

Do you feel the existing network innovation strategy documents are useful and accessible?

16%

38%

46%

- No
- I haven't engaged with these strategy documents
- Yes

Should the gas and electricity network innovation strategies be more closely aligned?

No

Yes

0%   10%   20%   30%   40%   50%   60%   70%   80%

Underlying principles and outcomes

Findings

- The average response to the extent to which they agree with the proposed underlying principles was 4 (agree) with only 5% disagreeing with them
- When asked if there were any principles missing, 56% said yes
- The most frequent response (33%) to what are the missing principles was decarbonisation and the need to contribute to meeting the net zero target. Supporting decentralisation and enabling transformational change (both 11%) were also frequently stated. The comments made about deployment, third party collaboration and customer centricity built on the existing proposed principles
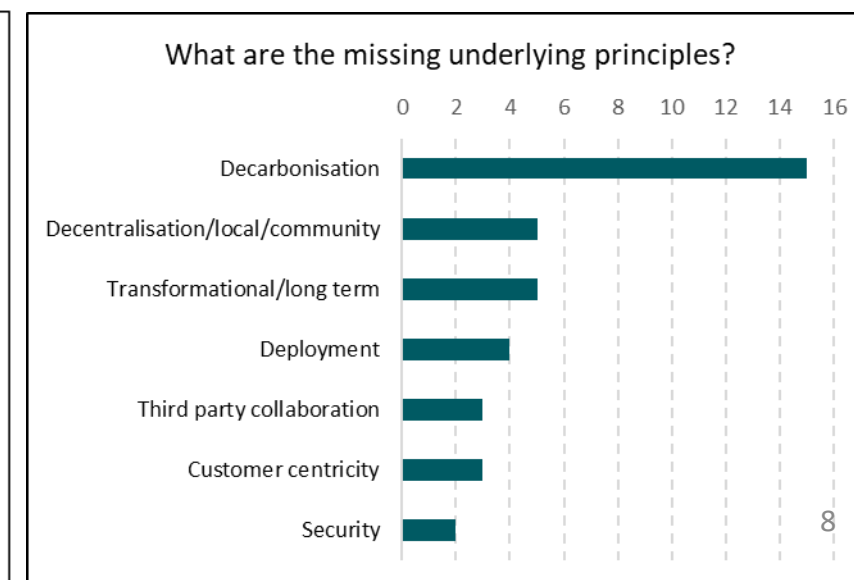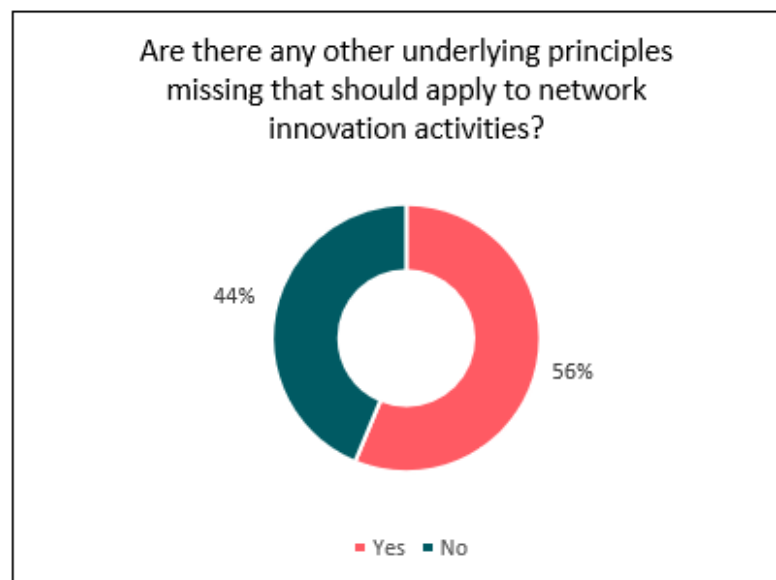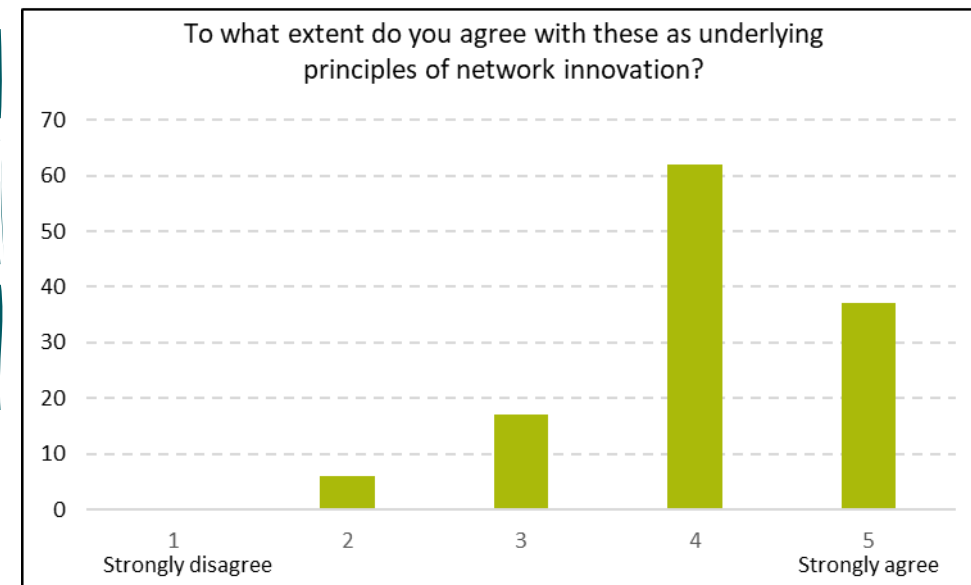
Regen's recommendations

- To keep the proposed underlying principles and outcomes and to not introduce additional ones. Decarbonisation will not necessarily be applicable to all network innovation, e.g. to improve safety or resilience. However, it can be incorporated as a key element of 'customer benefit' and will feature as a theme
- To incorporate feedback on what is missing around decentralisation, transformational change, deployment, third party collaboration and customer focus into existing principles

Customer benefit: Provide benefit to customers, consumers and users of the network.

Collaboration: Provide shared learning and increase collaboration between networks, the wider energy sector and beyond.

Data and outputs: The findings of network innovation activity to be made available to all in a consistent and accessible format.

Scale-up and roll-out: Take viable initiatives forward to business-as-usual and to identify the best method to scale-up or roll-out the relevant practices, products or approaches.

To what extent do you agree with these as underlying principles of network innovation?

Are there any other underlying principles missing that should apply to network innovation activities?

- Yes
- No

### What are the missing underlying principles?

Proposed themes

Findings

- Two thirds (67%) stated that there were no missing themes that they would add
- Of the 33% of respondents that identified missing themes, only four topic areas where identified by more than one respondent: variations on net zero; local energy systems; customer focus; and future proofing
- There was a general agreement that each of the proposed themes were the right ones. Net zero had the strongest support with 98% of respondents agreeing it is a key theme.
- Net zero had the highest importance rating of 4.7 out of 5, with the other four themes receiving similar ratings between 3.6-3.8
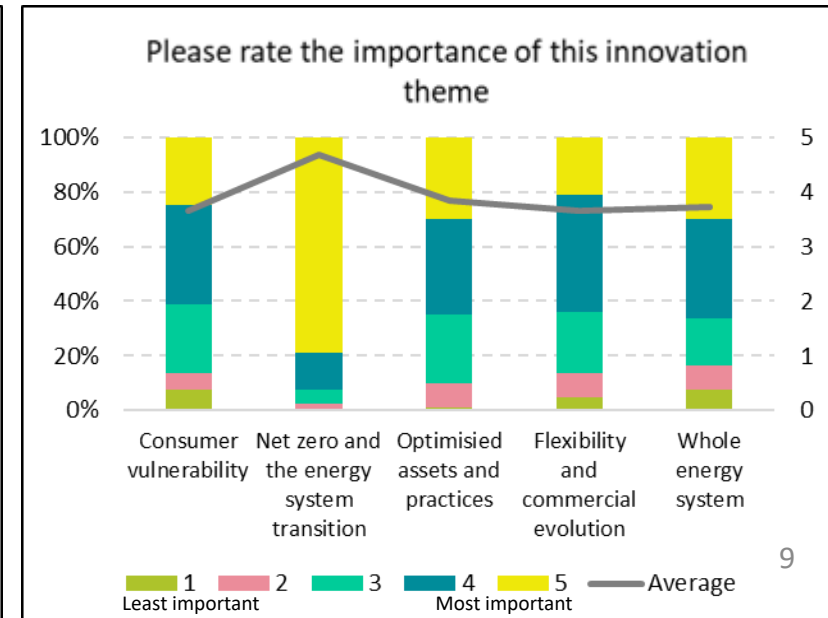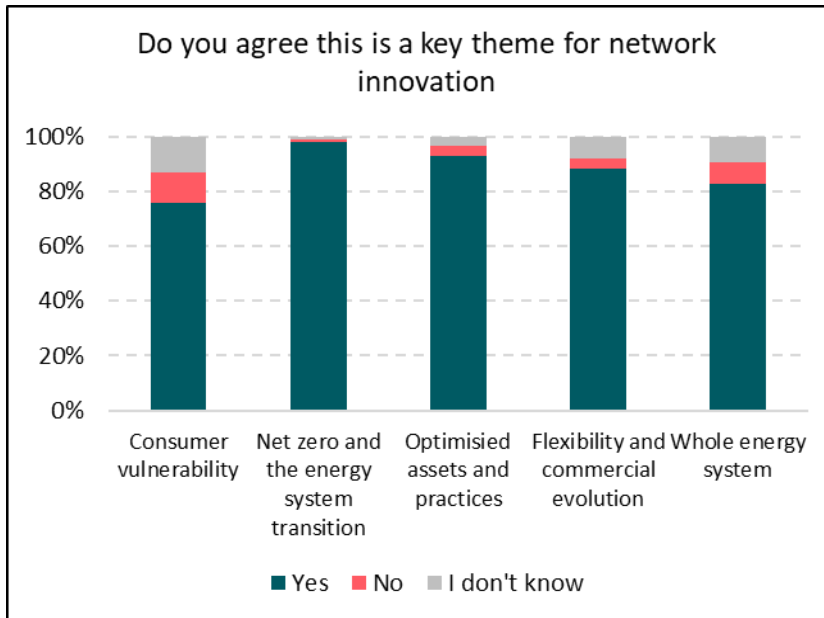
Regen's recommendations

- There is general agreement that the themes are the right ones
- Incorporate comments on missing themes into the descriptions of existing themes and principles where relevant. Consider how to include local energy systems, which doesn't obviously sit anywhere

Consumer vulnerability

Net zero and the energy system transition

Optimised assets and practices

Flexibility and commercial evolution

Whole energy system

Are there any key network innovation themes missing that you would add?

- Yes 33%
- No 67%
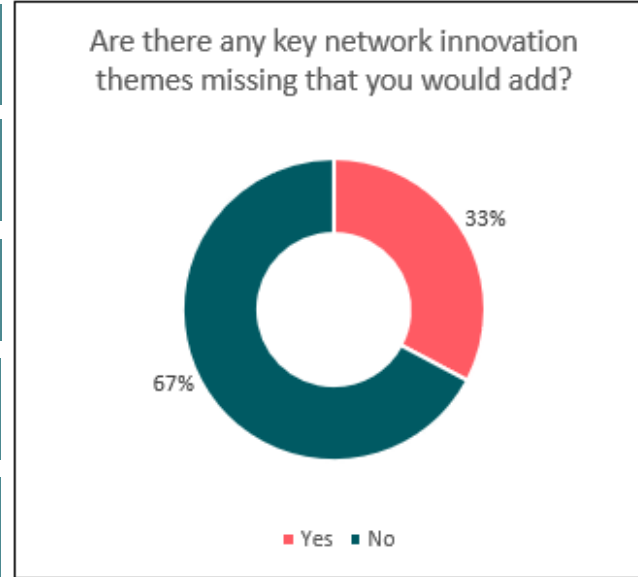
What innovation themes would you add?

Variations on net zero	5
Local energy systems	3
Customer focus	2
Future proofing	2
Regional planning	1
Energy justice	1
Safety	1
Electrification	1
Disruptive technologies	1
Hydropower	1
Digitalisation	1
Environmental management	1
Network operability	1
Energy security	1

Do you agree this is a key theme for network innovation

- Yes
- No
- I don't know

Please rate the importance of this innovation theme

- 1 (Least important)
- 2
- 3
- 4
- 5 (Most important)
- Average

Timeframes for themes

Findings

- 86% of survey respondents stated that it was useful to know whether the timeframes for innovation themes are short, medium or long term
- When asked what the timeframes should be for each theme, there were varying views, particularly with net zero and the energy system transition and optimised assets and practices
- There was general agreement that consumer vulnerability was a near term challenge, flexibility and commercial evolution was medium term and whole energy system was longer term

Regen's recommendations

- Present near-term priorities and longer-term ambitions for every theme, rather than try to categorise them as near, medium or long term. This aims to meet the stakeholders' need for having more information about urgency and removes the need to reach a consensus on what the timeframe should be.

Innovation timescales

Near term (< 2 years) ■ Medium term (< 5 years) ■ Long term (> 5 years)
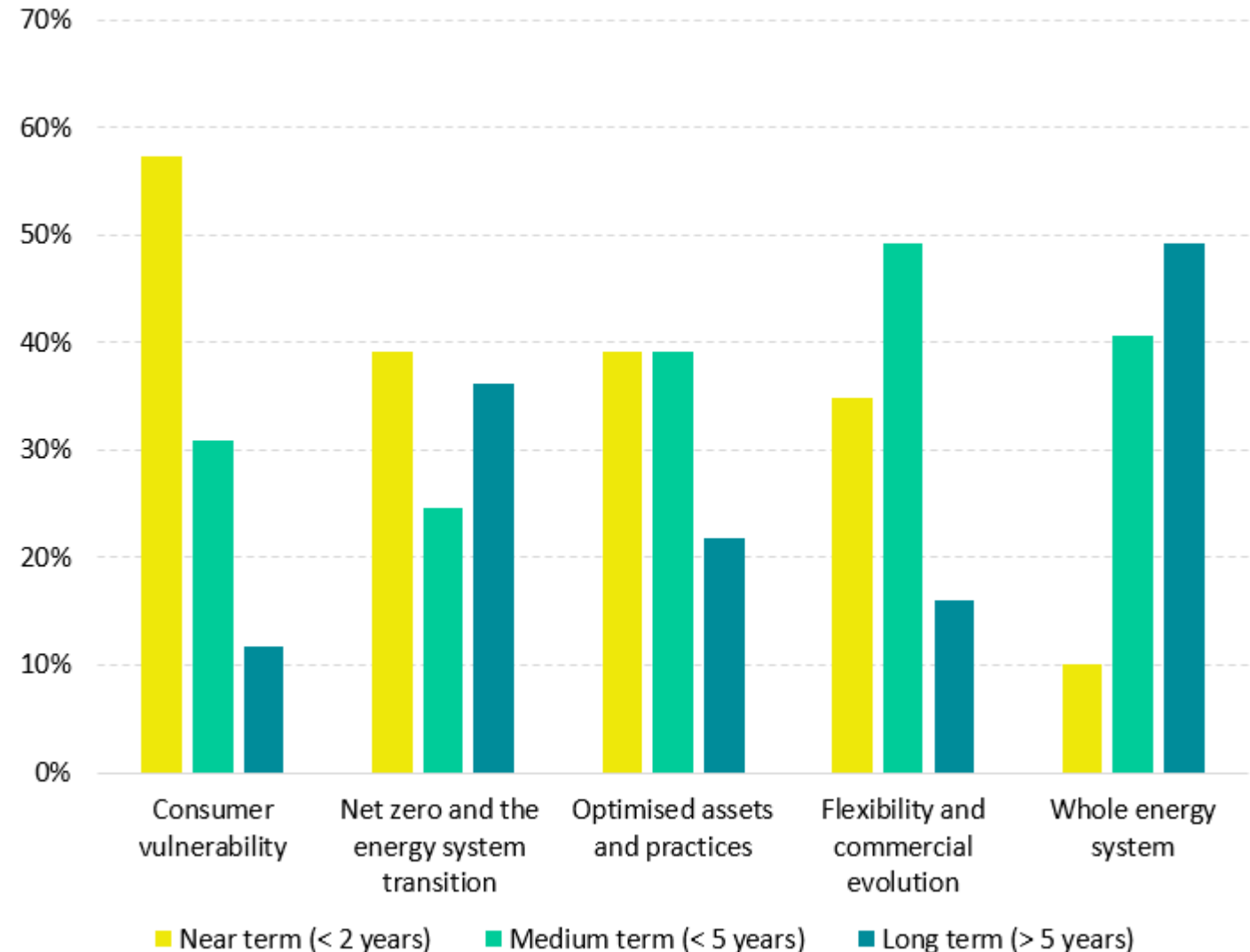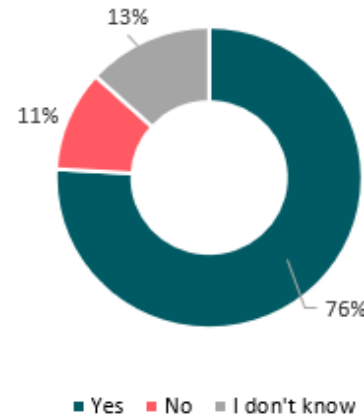
regen
transforming energy

Findings

- 76% of respondents agree that consumer vulnerability should be a key theme due to society's responsibility to protect those that are vulnerable now, those that may become vulnerable as our energy system changes and to maintain a customer focus

- 11% disagreed with consumer vulnerability being a key theme, mainly due to respondents stating that it should not be a focus area for network companies as it is seen to be the responsibility of other organisations. It was also questioned whether it is an outcome rather than a theme for innovation activity

- 23% disagreed with the definition. The suggestions for improving it included writing it in more 'human language', focusing on inclusivity rather than the vulnerable and including future consumers

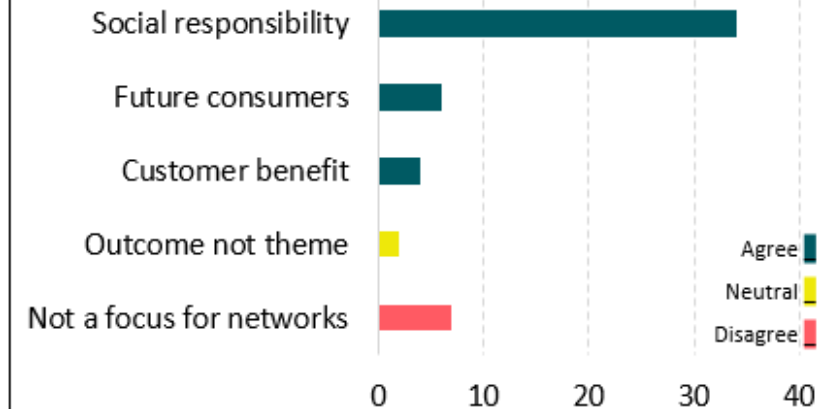- It received an average importance ranking of 3.6 out of 5.

Regen's recommendations

- Keep consumer vulnerability as a key theme and incorporate feedback into the description, particularly on widening it to inclusivity
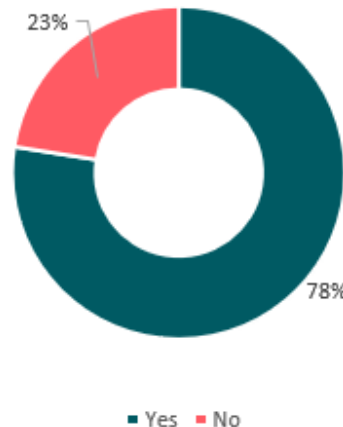
Do you agree that consumer vulnerability is a key theme for network innovation?

- 13%
- 11%
- 76%

■ Yes ■ No ■ I don't know

Reasons why agree/disagree with consumer vulnerability being a theme

- Social responsibility
- Future consumers
- Customer benefit
- Outcome not theme
- Not a focus for networks

0 10 20 30 40

Agree
Neutral
Disagree

Do you agree with how we have defined the consumer vulnerability theme?

- 23%
- 78%

■ Yes ■ No

Please rank the importance of the consumer vulnerability theme

40%
30%
20%
10%
0%

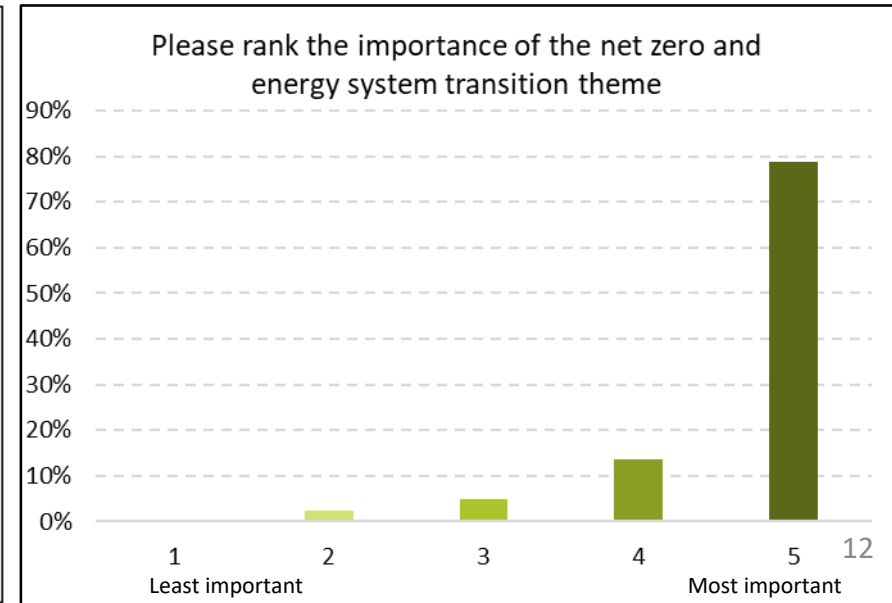1 — Least important
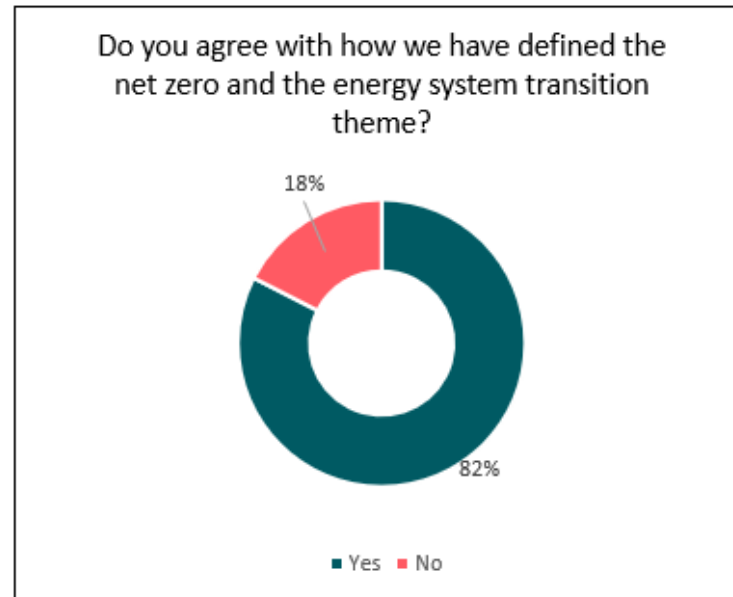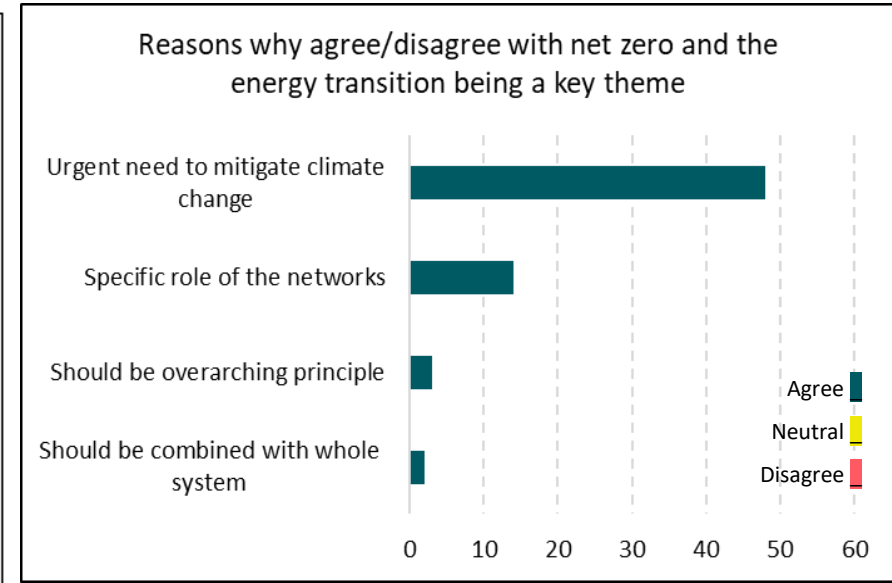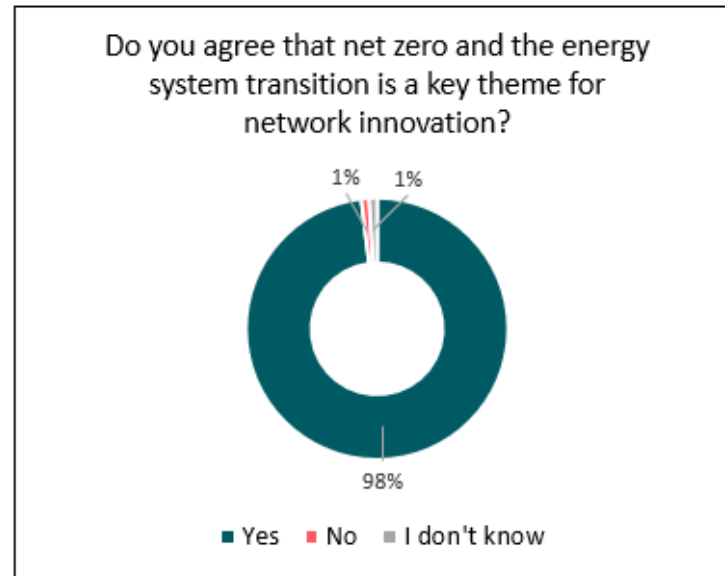2
3
4
5 — Most important

11
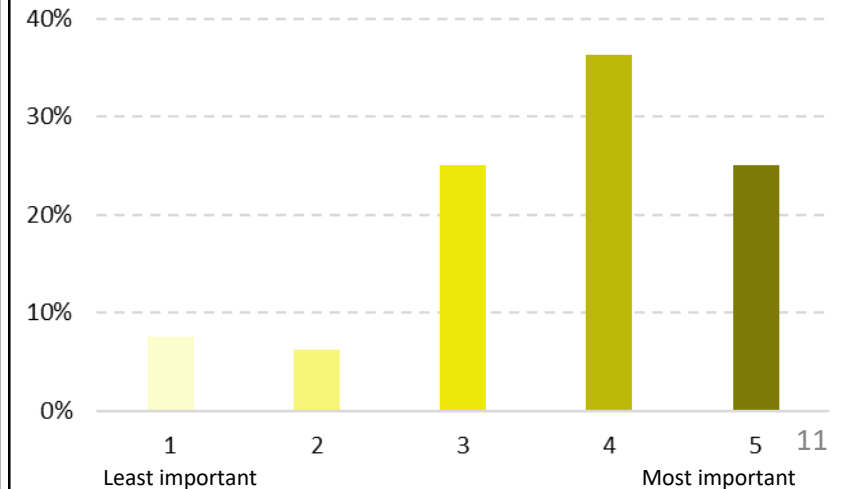
Theme 2: Net zero and the energy transition

Findings

- 98% agreed that net zero and the energy system transition was a key theme due to the urgent need to mitigate climate change. Many respondents also stated that they saw a specific role for the networks in facilitating the transition

- 18% disagreed with the definition provided and made suggestions to include: a timescale; sustainability and the need to avoid additional environmental impact; energy efficiency; community energy; life cycle analysis; and collaboration with non-network actors

- It received an average importance ranking of 4.7 out of 5.

Regen's recommendations

- Keep net zero and the energy transition as a key theme

Do you agree that net zero and the energy system transition is a key theme for network innovation?

1%   1%

98%

■ Yes   ■ No   ■ I don't know

Do you agree with how we have defined the net zero and the energy system transition theme?

18%

82%

■ Yes   ■ No

Reasons why agree/disagree with net zero and the energy transition being a key theme

Urgent need to mitigate climate change

Specific role of the networks

Should be overarching principle

Should be combined with whole system

Agree
Neutral
Disagree

0   10   20   30   40   50   60

Please rank the importance of the net zero and energy system transition theme
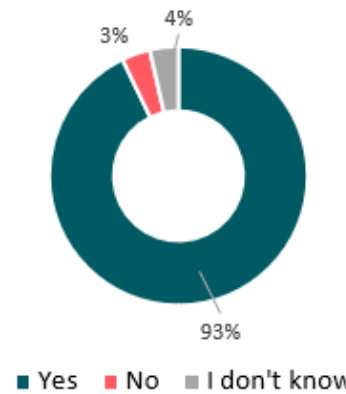
1 Least important   2   3   4   5 Most important

Findings

- 93% of respondents agreed that optimised assets and practices was a key theme. This was due in the main to the opportunity to increase efficiency, enable continuous improvement and support decarbonisation

- Reasons provided for not agreeing that it was a key theme were that it should be business as usual and a part of all the innovation themes

- 16% disagreed with the definition of the theme, stating that: too much focus on assets rather than practices; change focus from developing to implementing; include a timescale; change 'state of the art' to 'world class' or 'industry leading'; and to include solutions that don't have to be novel

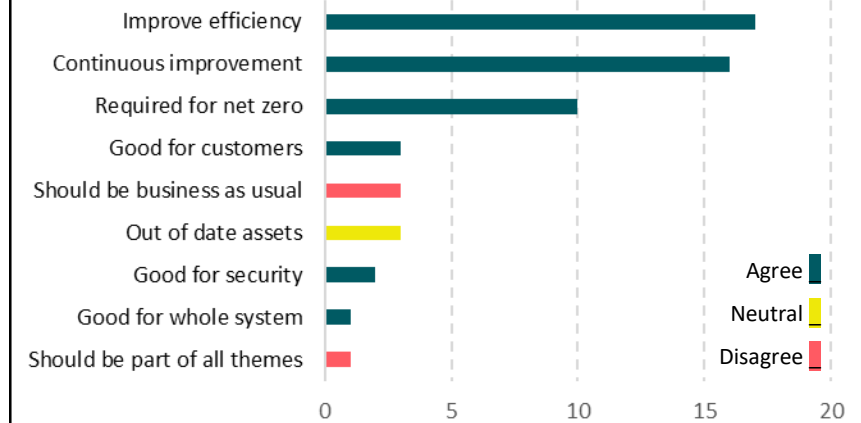- It received an average importance ranking of 3.8 out of 5.

Regen's recommendations

- Keep optimised assets and practices as a key theme, but emphasise the 'practices' element
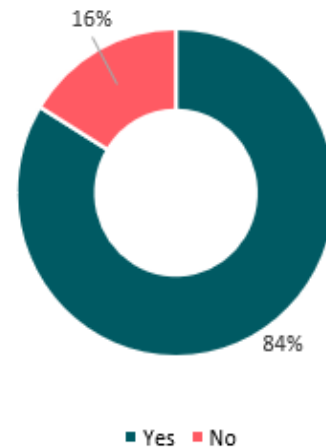

Do you agree that optimised assets and practices is a key theme for network innovation?

3% 4% 93%

■ Yes ■ No ■ I don't know

Reasons why agree/disagree with optimised assets and practices being a key theme

Improve efficiency
Continuous improvement
Required for net zero
Good for customers
Should be business as usual
Out of date assets
Good for security
Good for whole system
Should be part of all themes

Agree
Neutral
Disagree

Do you agree with how we have defined the optimised assets and practices theme?

16% 84%

■ Yes ■ No

Please rank the importance of the optimised assets and practices innovation theme

1 Least important ... 5 Most important
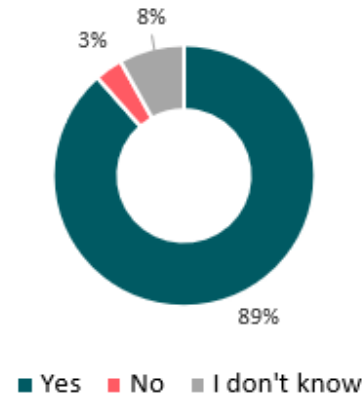
13
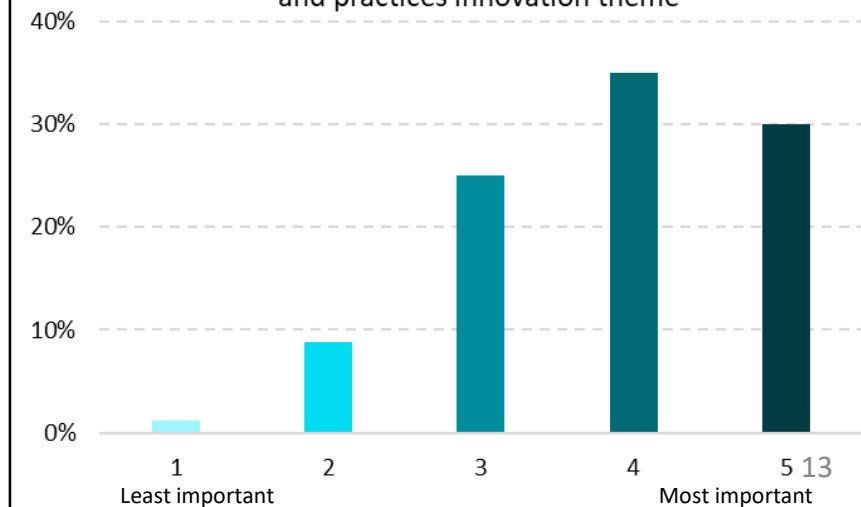
Theme 4: Flexibility and commercial evolution

Findings

- 89% of respondents agreed that flexibility and commercial evolution was a key theme due to its importance in delivering net zero and to enabling a smarter system for the future
- 3% disagreed with it being a key theme due to a perceived high cost and the number of existing innovation trials
- 21% disagreed with the proposed definition stating that it should include: competition; openness; transparency; sense of timescale; 'system' rather than 'network'; and a definition of 'responsiveness'. It was highlighted that commercial evolution applies to all themes, with particular overlap with 'optimised practices', and that it's a means not an end
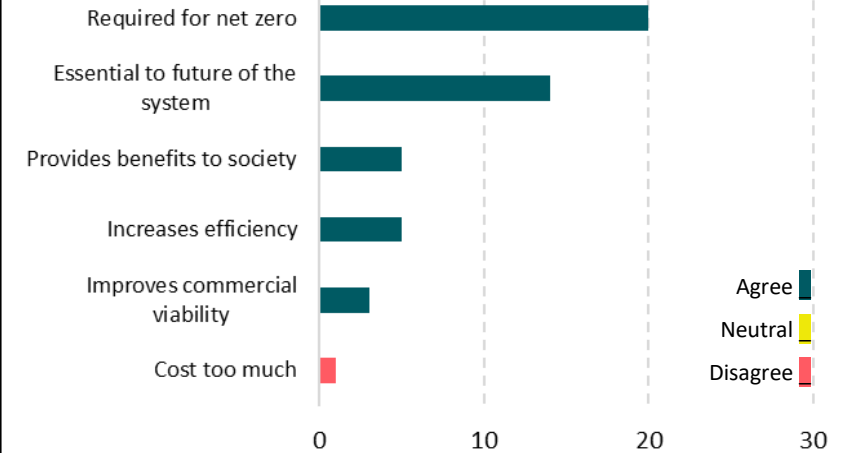- It received an average importance ranking of 3.7 out of 5.

Regen's recommendations

- Keep flexibility and commercial evolution as a key theme and expand the definition/description to incorporate feedback
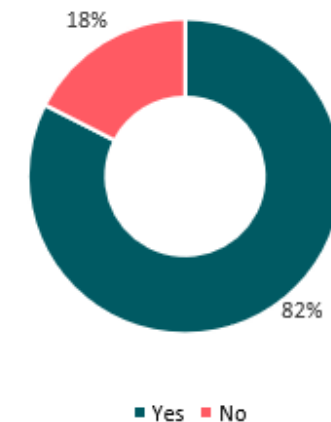
Do you agree that flexibility and commercial evolution is a key theme for network innovation?

8%
3%
89%

■ Yes ■ No ■ I don't know

Do you agree with how we have defined the flexibility and commercial evolution theme?

18%
82%

■ Yes ■ No

Reasons why agree/disagree with flexibility and commercial evolution being a key theme

Required for net zero
Essential to future of the system
Provides benefits to society
Increases efficiency
Improves commercial viability
Cost too much

0   10   20   30

Agree
Neutral
Disagree

Please rank the importance of the flexibility and commercial evolution innovation theme

45%
40%
35%
30%
25%
20%
15%
10%
5%
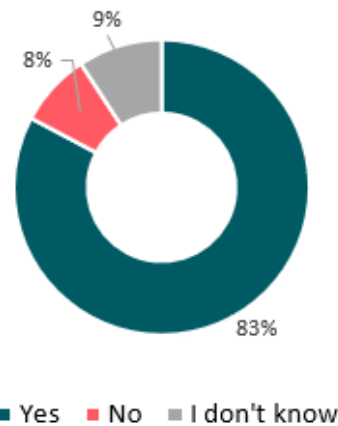0%

1 — Least important   2   3   4   5 — Most important
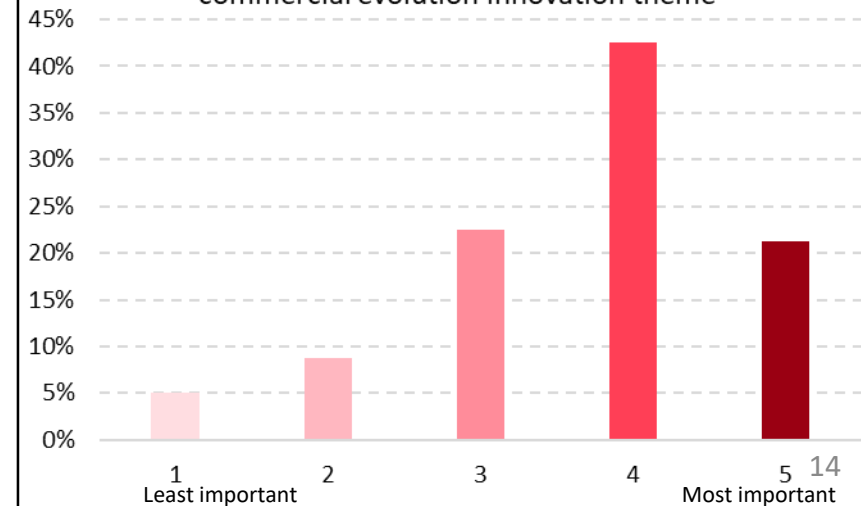
Findings

- 83% agreed that whole energy system was a key theme stating the need for a holistic approach, that the energy system is interrelated and a joined up approach is essential for delivering net zero

- 8% disagreed with the definition either because they felt gas and electricity were too different and required a different approach, or that gas was no longer relevant

- 25% disagreed with the definition with suggestions to improve it, including:
  - Widen from gas and electricity to include transport, heat, hydrogen, buildings, cities etc.
  - Include joined up approaches between distribution and transmission
  - 'Exploring' was seen to be weak. Change to 'enabling'
  - Question whether gas was relevant in the long term
  - Include: forecasting; distributed energy resources (DERs); design; construction; data and model exchange; and decarbonisation

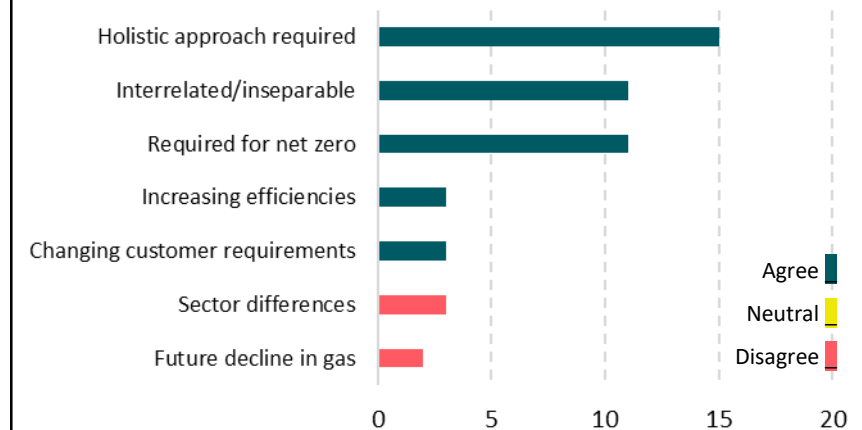- It received an average importance ranking of 3.7 out of 5.

Regen's recommendations

- Keep whole energy system as a key theme but revise the definition to include transport and heat and the description to reflect other feedback
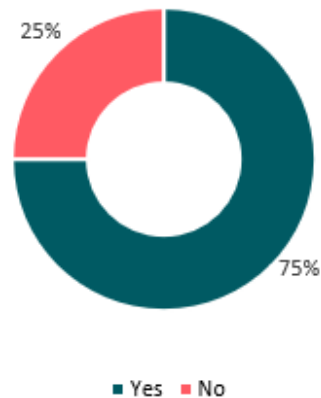

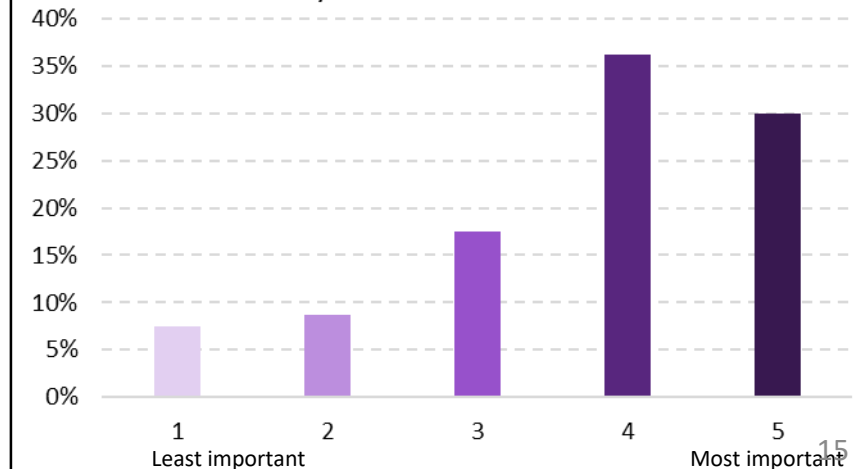Do you agree that whole energy system is a key theme for network innovation?

9%
8%
83%

■ Yes ■ No ■ I don't know

Reasons why agree/disagree with whole energy system being a key theme

Holistic approach required
Interrelated/inseparable
Required for net zero
Increasing efficiencies
Changing customer requirements
Sector differences
Future decline in gas

0 5 10 15 20

Agree
Neutral
Disagree

Do you agree with how we have defined the whole energy system theme?

25%
75%

■ Yes ■ No

Please rank the importance of the whole energy system innovation theme

40%
35%
30%
25%
20%
15%
10%
5%
0%

1   2   3   4   5
Least important   Most important

Differences between sectors

Findings

- The technology companies, consultancies and network companies disagreed with the proposed themes more than the other sectors
- The consumer vulnerability and whole energy system themes received the most challenge

Regen's recommendations

- Ensure that we have good representation from the networks, consultancies and tech companies at the stakeholder workshops

Do not agree with it being a key theme

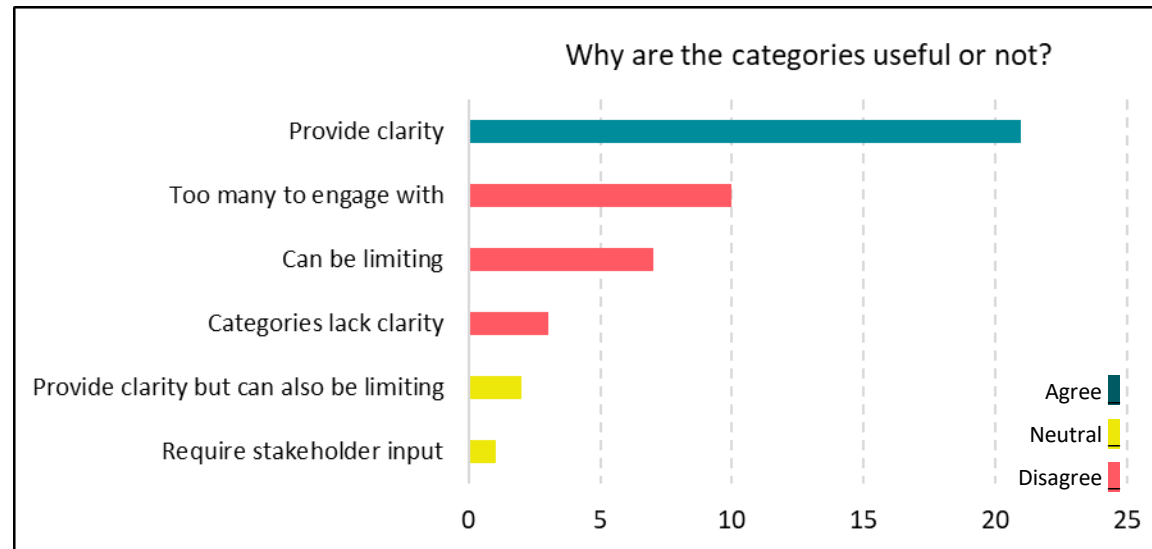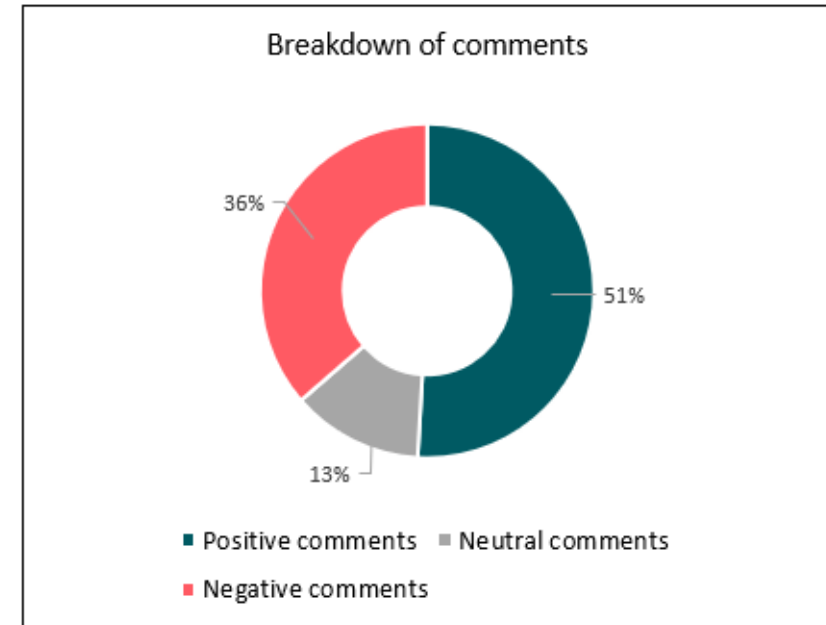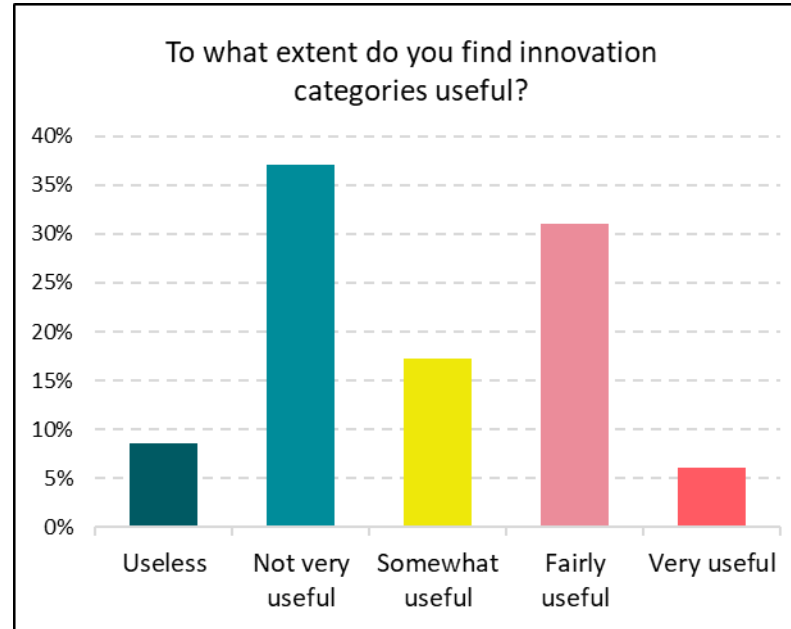Do not agree with the definition

Innovation categories
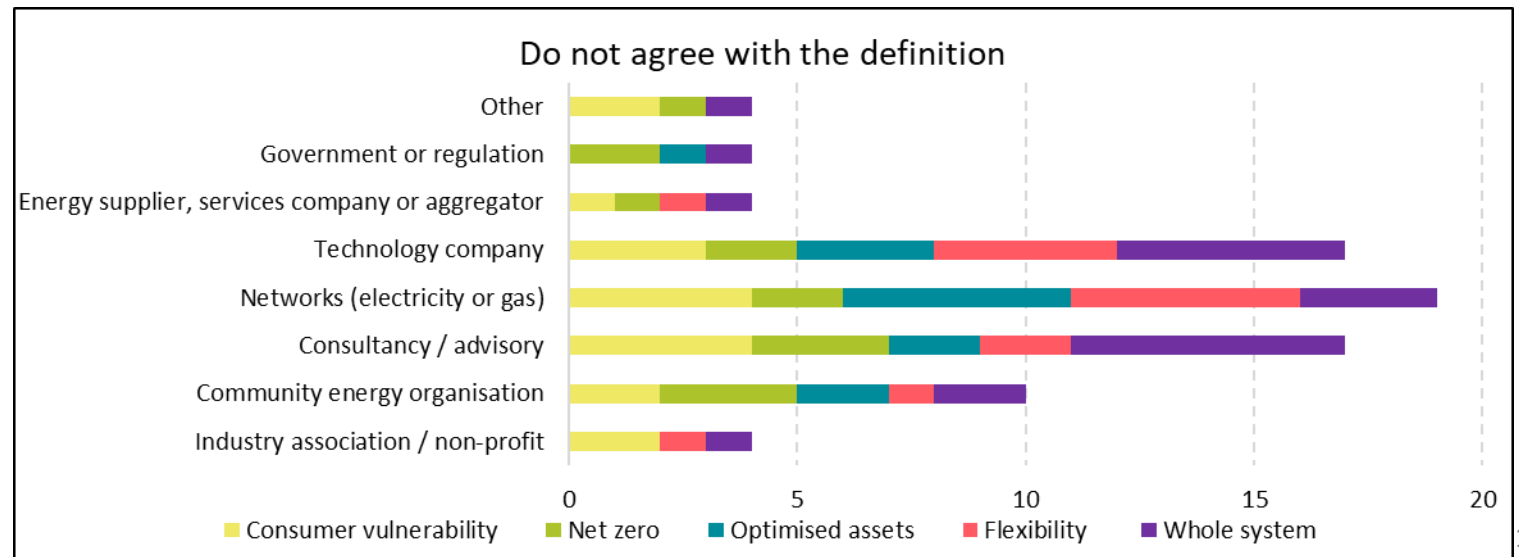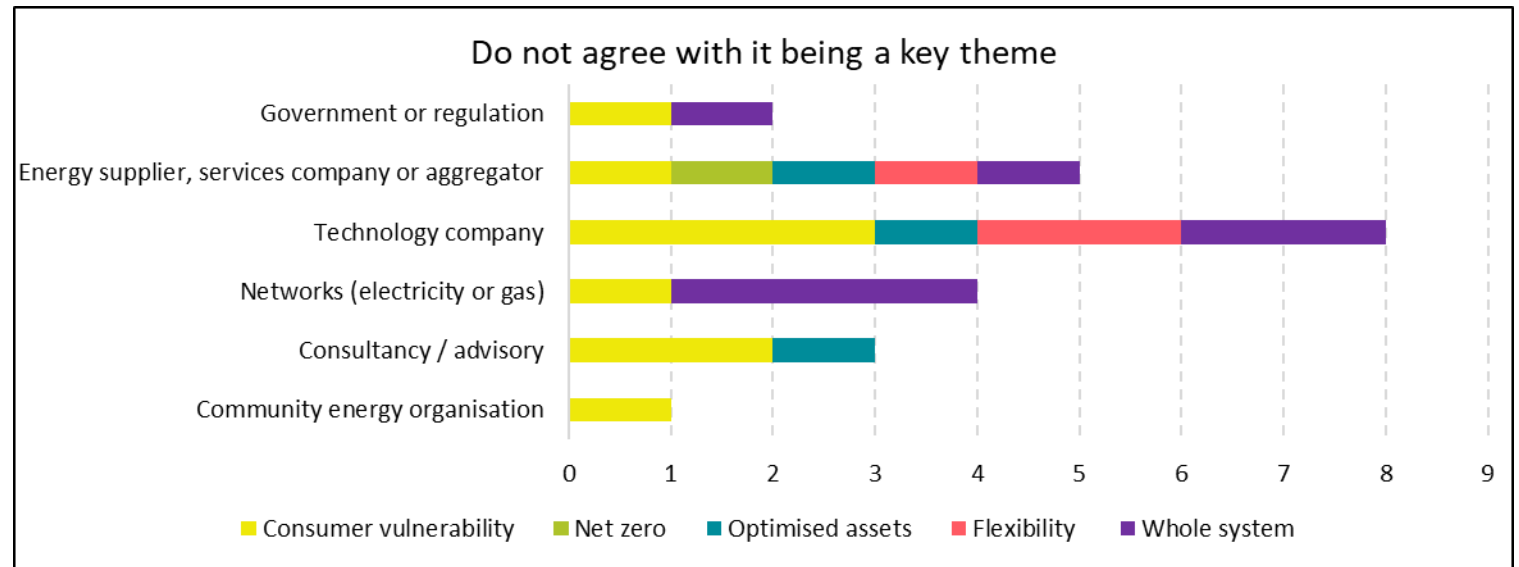
Findings

- When asked to what extent they found the innovation categories useful on a scale from 1 (useless) to 5 (very useful), the average score was 2.79, i.e. not particularly useful

- For those that provided comments (survey respondents only), over half stated that they provided clarity, structure and guidance

- The neutral comments included that the categories can provide clarity at the same time as being limiting. They also require input from stakeholders to ensure they are the right ones

- The negative comments included that there were too many categories, that they can limit the scope of ideas coming forward and that they can lack clarity

Regen's recommendations

- The 103 existing challenge categories are retired and the top three 'focus areas' are identified for each theme for each strategy using the stakeholder workshops

To what extent do you find innovation categories useful?

Breakdown of comments

Why are the categories useful or not?

17

ABB
ADBA
AECOM
Aggreko
Arenko
Arup
Aura Power
BC&JMDOWNEY
Biotrans Pole Sleeves
Blaenau Gwent
BMT
Bouygues Energy Services
Bright Renewables
Burohappold
Cadent Gas
Cambridgeshire Council
Capula Limited
CCSA
Centrica plc
Ceredigion County Council
CGI
Client Earth
Community Energy England
Community Energy Scotland
CooperWalsh
Cyient
D&G Electrical services (UK) Ltd
DECCC
Delta EE

DEPSYS
Dorset Community Action
Easy Smart Grid GmbH
Eclipse Power
EDF Renewables
Electricity North West
Electricity Storage Network
Electron
Element Energy
ENA
Energy Innovation Centre
Engie
Entergy
ES Catapult
Essex County Council
Freelance science and environment
journalist, The Walnut Bureau
GE
Gemserv
Geyser Thermal Energy Ltd
Gloucestershire Community Energy
Co-op
Grand Union Community Energy Ltd.
Greater London Authority
Grimsey Marine Technology Ltd
GWENT ENERGY CIC
Harbrough Energy Ltd
Harmony Energy Storage Ltd
Hitachi

i4 Asset Management Ltd
IBM
Immersa Limited
Incoteco (Denmark) ApS
Innogy Renewables
JRC
Kelvatek
Kent County Council
Koron Industries 1991 Ltd.
LBS
Local Energy Scotland
LoHydroGen Limited
Lone Inventor of new SEA~RYSER &
SEARASER
Low Carbon Gordano
Low Carbon Hub
Manufacturing Technology Centre
MMUni
MVV Energie
National Energy Action
National Grid Gas Transmission
National HVDC Centre, SSE
Transmission
Nortech
Norwich County Council
Nova
OrxaGrid
PENSPEN
Q-Bot

Regen
Rina Consulting
Royal Borough of Windsor and
Maidenhead
RS Renewables Ltd
RWE
SGN
Sharenergy
Sheffield Uni
Shell Energy
SLR Consulting
Smarter Grid Solutions
Smartest Energy
Smith Institute
Somerset County Council
South Hams District Council
South Hill Association for Renewable
Energy
South West Water
Spaceship
SSEN
Storelectric Ltd
Swanbarton
SYZYGY
Tamar Energy Community
TNEI
Two Valleys Community Energy
Various! inc Facilitating the Future
Wales & West Utilities

Welsh Govt
Wenceslas
Wivey Action
WWU
Yas Engineering Solutions Ltd
Yealm Community Energy
zlc energy

Companies that stated that they
had not been involved in
network innovation activities
but would like to be in the
future are highlighted

18

Appendix 2: Engagement suggestions

What else could we do to engage companies and people in network innovation?

Communications and engagement activities
- Presentations at existing events
- Through trade associations
- Tailoring information such as webpages, webinars and guides to different audiences
- Highlight the closedown reports and provide summaries in a list with links
- Workshops bringing DNO and market innovation companies together every 6 months
- Fortnightly newsletter
- Liaise directly with innovative companies
- Free nationwide roadshow
- Webinars
- Explaining without jargon is useful in terms of wider engagement
- Social media
- Videos
- Customers need to be included in target audience
- Maintain the ENA website with regular feeds and updates
- Topic based stakeholder engagement and managed dissemination activities
- Free-form challenge based, 'hackathon' type workshops
- National television
- Search engine optimisation
- Concentrate on people and organisations that can help with the transition
- More representation by the ENA at DNO events
- Deep dive forums
- Smarter networks portal not is not accessible.

Third party collaboration on projects
- Produce an guide to network innovation
- Seed funding to help community energy organisations come up with innovation ideas
- Explain how the current system works
- Innovation hubs are now prevalent in many US utility companies
- Establishing a peer network
- Working towards ISO standards for innovation
- More transparency on how projects go from theory to reality under the current policies
- Guidance and assistance to navigate the complex set of organisations and funding mechanisms
- More investment in community development to access those who are more vulnerable in society
- Invest more in the uptake of new technologies
- Assist start-ups in becoming NIA ready
- Publication of the innovations that turned into BAU, and number of projects completed as BAU, this might incentivise more companies to be more actively involved
- A consistent process applicable to all DNOs that they will evaluate proposals submitted and let companies know if to be considered or not and why
- Greater clarity on how ideas can be submitted – sometimes there isn't a platform
- Structured portals
- Focused innovation calls
- More localised energy system involving local people
- Need for funded personnel to drive the shared learning.