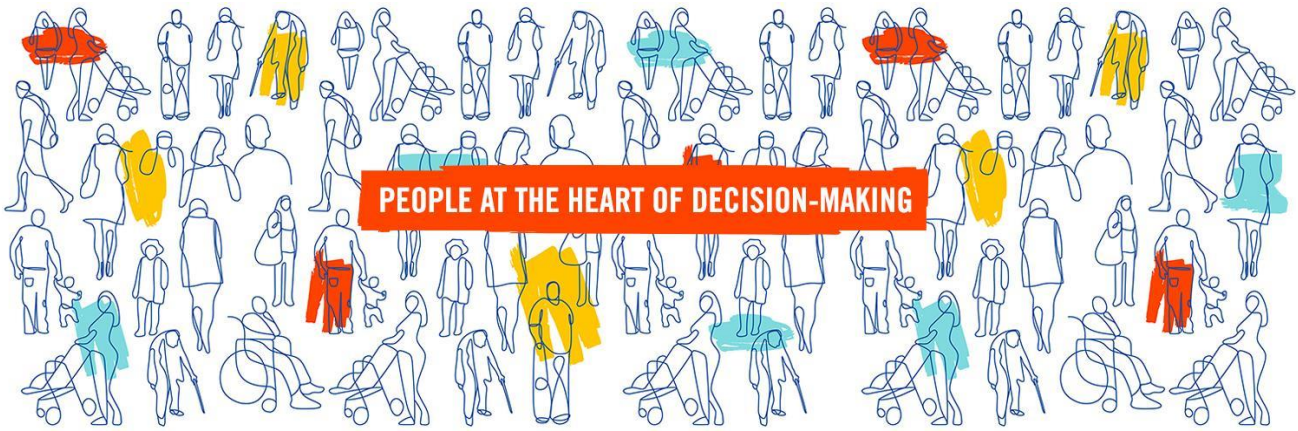
NGN Citizens Panel

Session 6: Findings Report



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1. Overview of Session 6

The sixth meeting of the NGN Citizens Panel (and the second one online) was held on Saturday 16th January 2021. It brought the group together to consider two specific aspects of NGN's future planning:

1. NGN's hydrogen vision; and
2. The Education and Skills strategy

Members met for 2 ½ hours in the morning and 2 hours in the afternoon. The panel meeting was facilitated by Involve, with three NGN staff members working alongside Involve's staff as table facilitators. The session consisted of a mixture of presentations from NGN staff, facilitated discussions in small breakout groups (average six - seven people) and written exercises to record clear findings (including a post-workshop worksheet to collect individual written comments and quantitative findings).

45 members of the panel (from a possibly 50) attended this meeting. Members were supported to be able to participate online in a variety of ways including through test zoom calls, 1-to-1 support introducing the platforms that were being used and, where needed, the provision of hardware and data packages to enable their participation. Support staff were also on hand to aid members who struggled with the technology on the day and ensure everyone was able to participate in all aspects of the workshop. All members were given a thank-you gift of £75 for their participation in the meeting.

The outline programme for Session 6 is reproduced below.

10:30am	Welcome and **update on the Business plan**
11:05am	**Introduction to Hydrogen** – presentation and discussion
11:45am	**The road to Hydrogen** – presentation and discussion focused on when and how to engage the public
12:30pm	**The Hydrogen House** – presentation and discussion focused on how to add value to the experience of visiting the Hydrogen House
1:00pm	*LUNCH BREAK*
2:00pm	**NGN's plan to develop an Education and Skills Strategy** - presentation and discussion focused on strategic objectives and priority areas
2:40pm	**The Social Mobility Pledge** - presentation and discussion focused on the three key commitments
3:35pm	**Delivering on the Strategic Objectives** – discussion drawing on member's own experience of good practice in outreach, education and recruitment
4:00pm	*Meeting closed.*

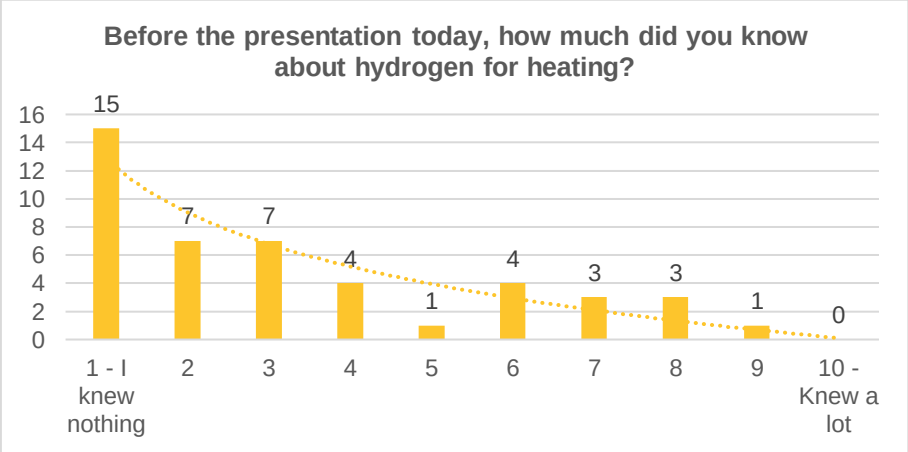
2. Focus on Hydrogen

The morning meeting focused on NGN's hydrogen vision with three key objectives:

1. To help members understand the proposal for hydrogen conversion of the network, and what it would mean for them, as one option for decarbonising heat in homes;
2. To explore *what, when and how* customers want to engage with hydrogen, the information they believe is most important to share and where this information should come from;
3. To understand how NGN can make the hydrogen house a useful and good experience for customers.

Initial awareness of Hydrogen

In the morning session the members heard a simple introduction to the possible future use of using hydrogen for home heating.



As the graph above shows, the majority of members of the panel had not heard anything, or had heard very little, about this use of hydrogen. Of those who reported that they had heard about it, the majority cited that mainstream media (newspapers, television and radio) had been the source of their information on Hydrogen as a future option for heating. (newspapers, television and radio) as a future option for heating. A small number also reported that they had already actively engaging with questions about hydrogen and energy futures.[1]

I did a university module on alternative energies a few years ago and have read some newspaper articles more recently. Also from discussions with friends who are in the environmental movement.

Wiki, scientific papers, experience with hydrogen as a fuel.

Online information about hydrogen village

[1] The quotes used throughout this report have been selected to illustrate the range of points made by members in their discussions and in the worksheet they completed after the workshop.

Brief overview of section in website of NGN & Cadent

Several members also reported that they had some familiarity with hydrogen, as an alternative gas, because of their participation in previous NGN Citizens Panel meetings (e.g. during the environment focussed meeting where hydrogen as a vehicle fuel was discussed).

We talked about it last time we did a group and I have seen programs on the tv about it being used in the future

From yourselves previously. I knew it was a greener form of fuel.

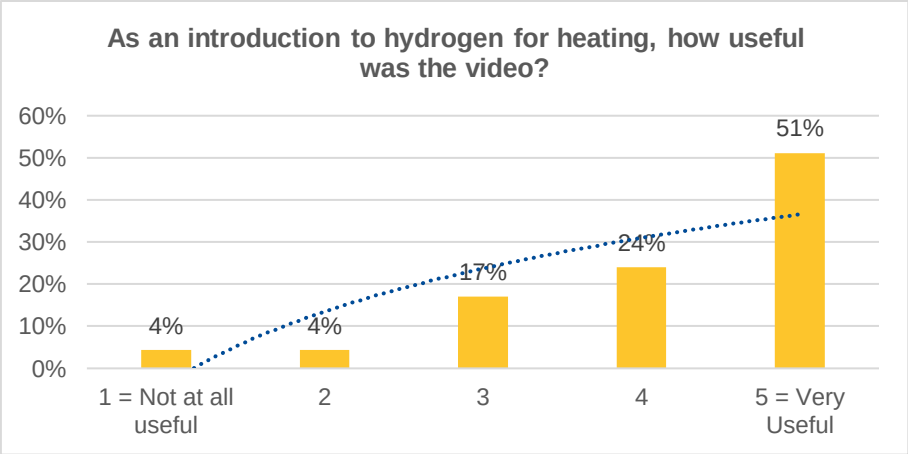
From you and from an online article

Previous NGN sessions and personal online reading

3. The hydrogen video

A short animation that NGN is developing to introduce hydrogen for heating was also shared with the members as part of the introduction. This was intended to both help inform members about the use of hydrogen in homes in the future and also to seek their feedback on the video itself.

How useful was the video as an introduction to hydrogen for heating?



As the graph above shows, 75% of members found the video a useful, or very useful, introduction to the topic.[2] Comments from members included:

Easy to understand and engaging

Covered every point, in a simplified way

It showed me what the difference is and how it will work

Because it explains quite clearly how it all works.

It explained the topic well. Simple language

Many members however expressed the view that it was possibly too limited to function as a stand-alone introduction to the topic, and valued their opportunity to ask questions of NGN directly to enhance their understanding.

It's a good mechanism to start conversations but not to answer questions

Gave some good info but left some unanswered questions

Quite simple and informative, but made you think of questions/challenges

[2] Percentages are used throughout this report for comparative purposes only. In a group of this size percentages carry little statistical significance and it is worth remembering that a single person accounts for just over 2% of the sample size.

Several members, who were otherwise positive, also made comments about the structure and content of the video, suggesting changes that they believed would have made it feel more useful, including:

My only criticism is that, perhaps it did not advise about other uses of hydrogen for energy purposes.

Not many people know what Hydrogen actually is. Perhaps need a bit more of a chemistry introduction.

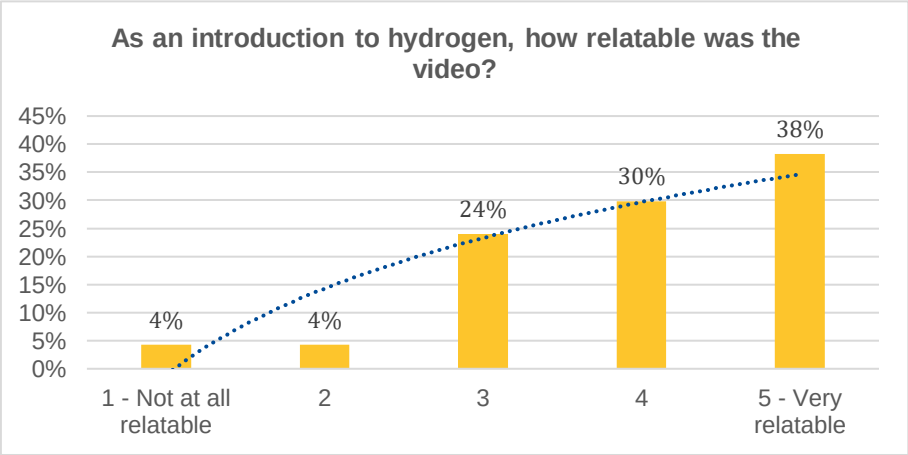
A few of the members who did not find it useful commented that they felt it was too simplistic.

Very basic like it's aimed at children

It was very limited in the information

A little too simplistic for myself, with lack of detail regarding carbon capture, etc

How relatable was the video?



68% of the members agreed that the video was 'relatable' or 'very relatable' in the post-workshop survey, although it is clear from their comments that the word relatable was interpreted in a variety of different ways.

For most members 'relatable' was viewed as something that made the conversion to hydrogen in their homes seem tangible and directly linked to the way they lived, as illustrated below.

The image of using a hob was good. We can all relate to that.

Only other thing I can remember is the pan and cooking which was the best bit of the video.

It was good to start with our use of gas for heating and cooking, this is tangible and provides context to the 'new' information about hydrogen.

It did a good job of linking the production of current natural gas and future hydrogen to the end product in our homes.

For a smaller number of others, the term ‘relatable’ seems to have been interpreted as being relevant and valuable to the current need for energy transitions.

It gave reasons to change from gas to hydrogen

We need to look at alternatives & Hydrogen sounds good sense

It showed that there is an alternative to ordinary gas.

It shows that as a gas consumer it is a really simple replacement fuel

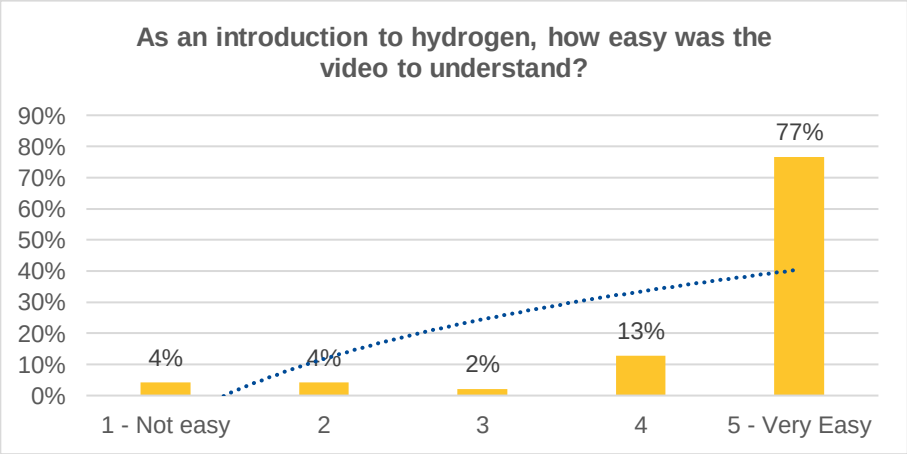
Those who identified the video as not ‘relatable’ tended to have very specific individual reasons for this.

It was a bit slow to start with, maybe wouldn’t really grab people to make them watch the full thing

Would be better if it was a different voice

I did not like the video - I found the person in the shower distracting - that is the main thing I remember about the video. However, it should be the overall message.

Was the video easy to understand?



90% of members found the content of the video easy to understand. A few members however, took the opportunity to highlight particular sections of the video that they felt could be made clearer.

The cost meter next to the CO2 meter. I couldn't see what was happening as it went too quickly so I re-watched it slowly.

The images of the molecules were a bit difficult.

The graphs need to be simplified or explained in greater detail.

Needs to make it really clear that it cooks and burns exactly the same way as natural gas. Do a side by side comparison.

It wasn't clear that only the appliances would need updating, not the pipe network or home plumbing

I did not find the messaging clear and was not memorable. and cannot remember the overall message. – perhaps something clear at the end.

What was missing?

While generally agreeing that it was easy to understand, there were a lot of questions raised by members that they felt should have been included (or made clearer) in the video - some of which suggest misunderstandings may have remained for a few members.

- How would Hydrogen actually get into their homes?

  How the hydrogen gets into the homes, how this is different to current ways.

  The 4 picture diagrams of the ways just weren't talked about as much which is why I know less about them

- What would be the impact of water extraction?

  How does it create water? What happens to the extra water?

  Does it increase water levels?

- How is Hydrogen actually extracted and what is returned to the sea?

  More explaining that it wouldn't be able to be mined from the sea and used straight away

  How the H2 was produced and what was pumped back into the sea. How much snake oil was used and who paid for it?

- What is carbon capture and storage, and why it is needed?

  Why the carbon has to be returned underground and not utilised elsewhere

  If nothing changes, does taking the gas from underground leave a void? If so, will that make the land above unstable? If true, it seems like a good idea therefore to full part of the void with the carbon again but is pure carbon stable? What happens to the remaining void?

  What will the carbon that's been removed be used for? How much won't be used?

- Would changing to Hydrogen be optional for households?

  What if I do not wish to change to Hydrogen?

  What if you've got Hydrogen but your neighbour hasn't … how will the roll out happen?

The most important thing for members however, something which was raised in all of the discussion groups and by many members in the post-workshop survey, was the costs to the customer.

What will happen when we have to change our boilers- what will the cost be likely to be- is there a deadline for this to happen? Would need plenty of time to save up if its consumers taking the cost.

Will Hydrogen be more expensive than gas?

What will the cost to the average household be?

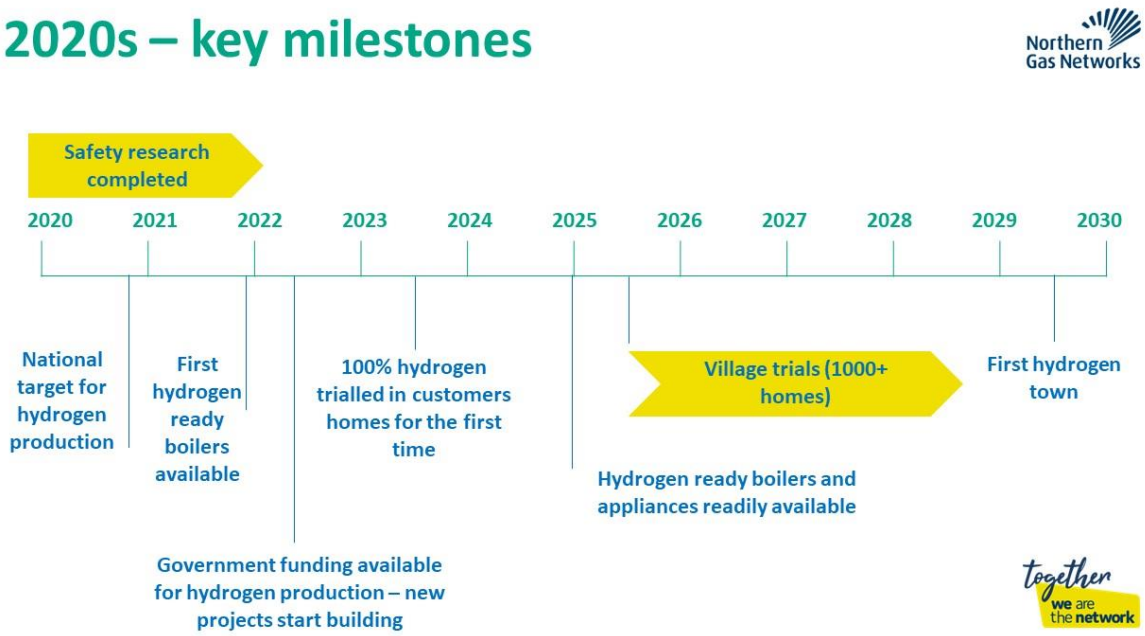
Why do our bills have to increase? Would this not be offset somewhere and can the companies not pay for the increase?

One group also particularly focussed on the carbon footprint impacts of making this change, questioning if the cost and effort was worth it.

Would like to see what an average carbon footprint would be for a gas using house compared to a Hydrogen using house? - using actual and understandable units/figures...put the 'footprint' into layman's terms [so we can] see/understand the actual data.

4. Public engagement with Hydrogen

In the second part of the morning the members were given further information about the road to Hydrogen, including that it will be a government policy decision whether the transition to Hydrogen gas takes place. The slide reproduced below was used to lay out the key milestones to members.



When should public engagement on Hydrogen in homes begin?

Across the discussion groups there was agreement that the public needed to know about the possibility of moving to Hydrogen gas in their homes to meet net zero targets as soon as possible.

- 76% of members agreed that public engagement should begin now.
- 20% however felt that engagement and education for the wider public should wait until a government policy decision has been made and a specific local area identified for Hydrogen conversion.

The question posed to members about when engagement should begin in the post workshop survey also gave them the option to select ‘Other’. Two members (4%) chose to input their own suggestions regarding the preferred timeline. These were:

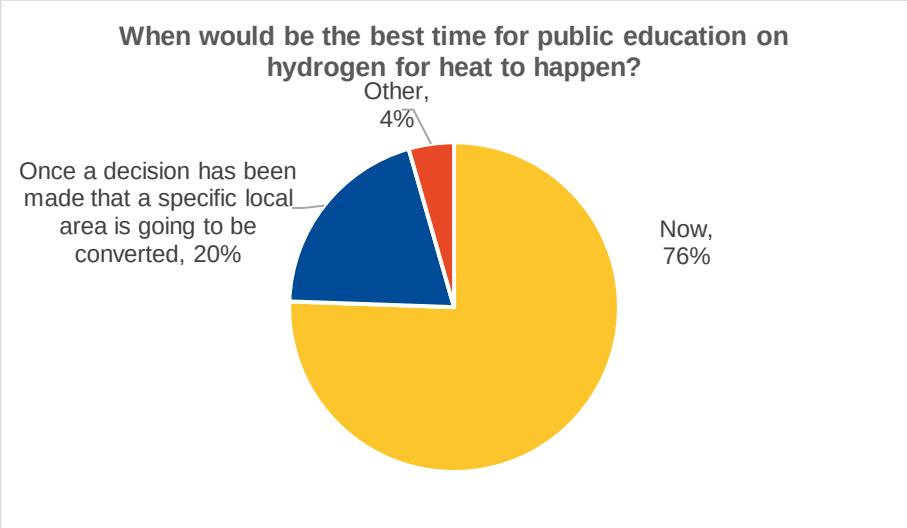
- “Now [to provide] limited general info of future green benefits to come, so [that it is] in the consciousness of people when the main communications occur at local levels when agreed”

Because it will be a 'slow burner' for majority of people, so show them the positives and possibilities, and build up the emphasis so there is the

science & clear believable answers available when the questions doubters start shouting

- "When it is remotely viable on a cost basis"

Before energy prices post 2050 are decided there can be no balanced choice of technology.



Engagement now

There was a clear preference expressed by members that engagement and information sharing needed to begin as soon as possible to allow customers to prepare for the potential gas transition.

Putting out the information now will get people on board

As the saying goes, the sooner the better. The longer the lead in time, the more people it will reach.

General Public have a right to know - Can start with overall messaging and then go into details once known

People need to understand that there will be urgent changes needed in home heating to meet Paris agreement targets and the earlier that is communicated, the longer it gives be people to get used to the idea. Ideally it will drive people to start demanding Hydrogen ready boilers or alternative heating sources when replacing old boilers or buying a new home.

Need to make people aware of the need to change and what the likely alternatives are. I didn't know anything about gas alternatives and I presume many won't. Better to have information about it before it happens so people are prepared and know what to expect.

It was also clear from the comments made by members that they believed that early awareness will allow people to become used to the idea, develop an understanding of the need and the technologies, and that this will help make people less resistant to change.

It is too late once it has been done and is to be implemented. People need to be on board and their questions answered, not when it is a done deal.

Because it will be a 'slow burner' for majority of people, so show them the positives and possibilities, and build up the emphasis so there is the science & clear believable answers available when the questions doubters start shouting

I don't think there needs to be a huge amount of detail, but starting the conversation about the developments that are underway, talking about the benefits to the climate and acknowledging and addressing head-on the inevitable concerns that people will have about cost implications and safety will ease people into this.

It's not something we've learnt about and the quicker we start to understand it the easier it would be to implement it. Look at the conspiracy theorists with Covid and 5g towers

Engagement once a roll out decision has been made

From the 20% of panel members that though public engagement should be delayed there was a clear sense that, while the potential of transitioning might be interesting to some people, there was no point in undertaking wider information campaigns until it was due to become a reality in their area.

Because there is no point telling people about it before its official. Once a decision has been made on time scales then tell everyone.

There needs to be a reason for peoples' lives to be giving this info. i.e. forthcoming conversion of their area. If not, people will "switch off".

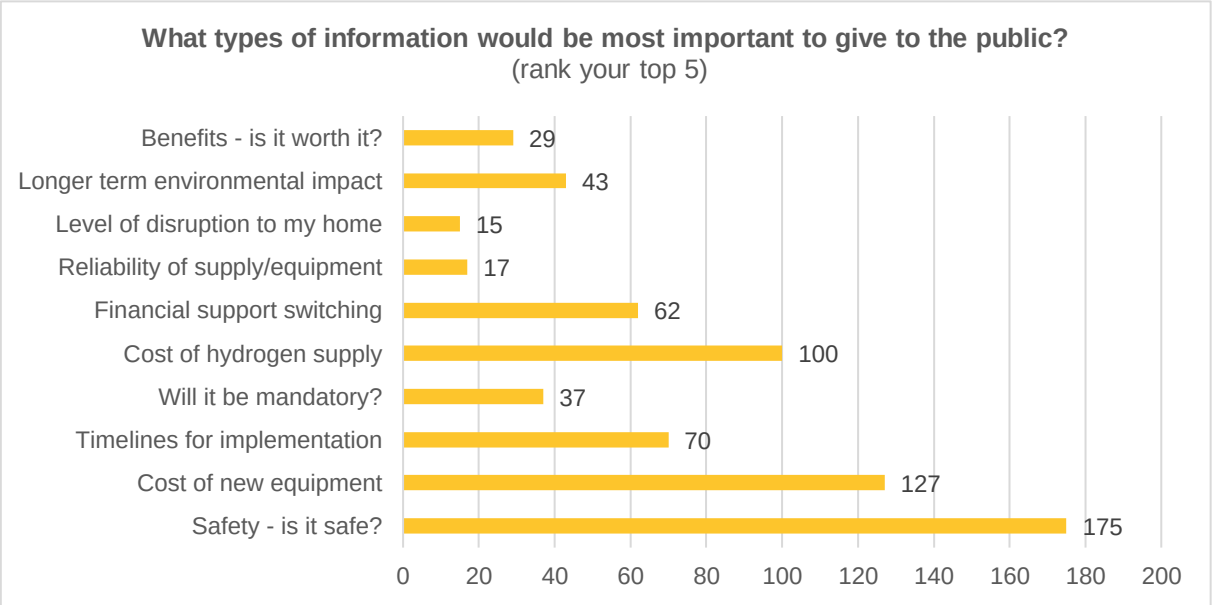
I think at the moment, while it sounds very positive, there is still a lot of uncertainty around the topics and if there's a long delay the excitement may wear off.

Some also noted that Hydrogen is something that many people might really only trust as an option once it was actively up and running. In these group's discussions focus was given to the milestones of Hydrogen ready boilers and appliances being commercially readily available and the delivery of a whole village trial, as key points at which to capture interest and build acceptability.

What will be most important to convey?

Members had the opportunity to discuss in their groups what they believed it would be important to convey to the public to increase the awareness, interest and acceptability of transitioning to Hydrogen gas in the home. They began by identifying the things that they personally would want to know in order to feel comfortable with the transition. The points raised across the groups were then consolidated and presented back to the members in the post-workshop survey to be prioritised in terms of the types of information they believe it

would be most important to share with the public. The results of this ranking are presented below.[3]



Being reassured about the safety of having Hydrogen piped into their homes, the safety of Hydrogen appliances and Hydrogen storage was the overall priority identified by members (with 28 members making it their top choice).

How safe will it be...will it be as safe or safer than gas?

Safety aspect: when installing (when changing the network) and at the point of use.

Is leakage from pipes going to blow up my house? H2 leaks through metal doesn't it?

Cost was clearly another key consideration for the Panel, with the costs of Hydrogen ready boilers and appliances and the costs of Hydrogen to the consumer being ranked 2nd and 3rd most important overall when communicating about Hydrogen.

How much more expensive it will be - individual comparisons for each customer

How efficiently does Hydrogen burn as compared to gas i.e. would we need to use more or less, and what would be the bearing on cost?

In many of the discussions the likely impact on bills was linked to the need to understand timelines in order to be able to prepare financially for having to invest in new technologies for their home (ranked 4th).

That I have time to save & plan for the changeover.

[3] The results have been calculated as a Borda Poll, where the top priority is allocated 5 points, the 2nd priority allocated 4 points, through to 1 point for the option chosen 5th.

How long would the rollout take and how would it be decided who was getting it first /which areas?

When is the cut off for having a new boiler fitted?

The need for financial support to be available to assist people with making the transition was also seen as something that it was important for people to know at the beginning of any engagement about Hydrogen transition.

I am concerned about additional cost of a new Hydrogen boiler when my old boiler still works

I can't afford a new boiler of any kind at present. Why do boiler installers keep it all so secret?

Will there be financial support for those who are unable to afford the cost increase - will they be forced to switch?

There was also quite a bit of emphasis given to ensuring that the public understand the way a rollout of Hydrogen would happen, and the impact this would have on an individual household's ability to choose their own timelines.

Can I opt in to be part of the pilot?

What happens if I don't want to make the move to Hydrogen, is there an option to opt out?

Understanding the longer-term environmental impact of any switch to Hydrogen was also seen as an important factor in ensuring its acceptability to the public, and therefore something that should be prioritised for engagement.

Is Hydrogen really the most effective way to reduce Carbon. What do Scientists say?

What about the carbon being stored? Is that really something that can help address climate change effectively?

Is Hydrogen a short-term plan likely to be replaced in the future or something viable for a long time?

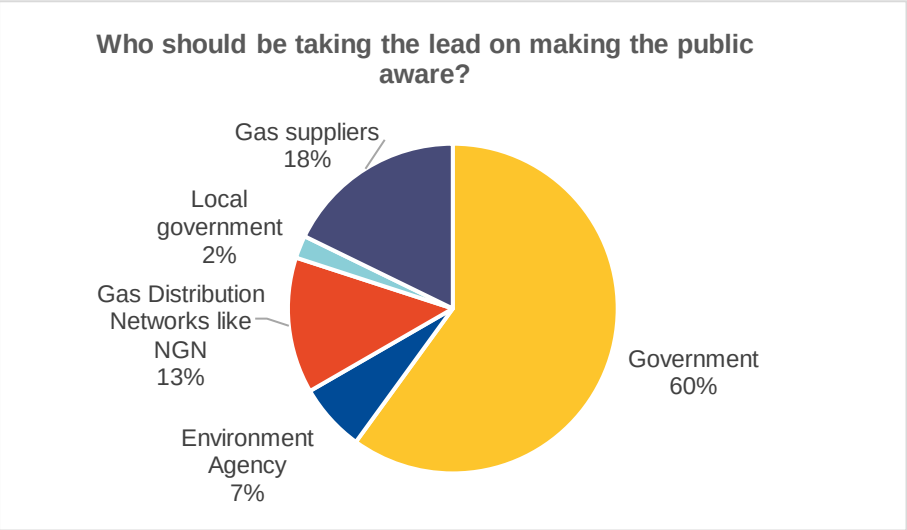
Who should lead on building public awareness of Hydrogen?

While members clearly felt there was a role for network companies like NGN and gas suppliers to help people prepare for a transition to Hydrogen, when it came to who should lead, there was a strong preference for this to be national government. Members recognised that the transition to Hydrogen would be a policy decision by government to address climate change and ensure the country's energy future. For this reason it was emphasised by members that government needed to demonstrate leadership in setting this out as a necessary transition.

Government create the Policy on Energy which NGN and Gas Suppliers will have to follow.

The Govt has the resource and the reach, it also has the responsibility to reduce the UK's carbon emissions. It needs to be seen as a national project, that it's in the interests of us all.

They own overall strategy and policy and are responsible for meeting Paris accords.



Some members also voiced concerns that they would be cynical if the lead communication on the need for gas transition can from a gas company, as people could see it being something imposed on them by a company that would profit from the change, especially if there were to be bill increases. It was seen as important therefore that public education is driven by a public institution.

There will be financial implications for customers, so it is important that Gas Suppliers are not the primary driver for comms - it might appear to some that they are making money out of this.

If a company does it, it looks like a profit making scheme. It should come from the top if it involves the whole country.

Where members did identify that gas supply companies should lead the communications it tended to be because of the direct relationship that exists through billing.

They have an established relationship with their customers.

They are the first port of call for people regarding their gas and electricity needs

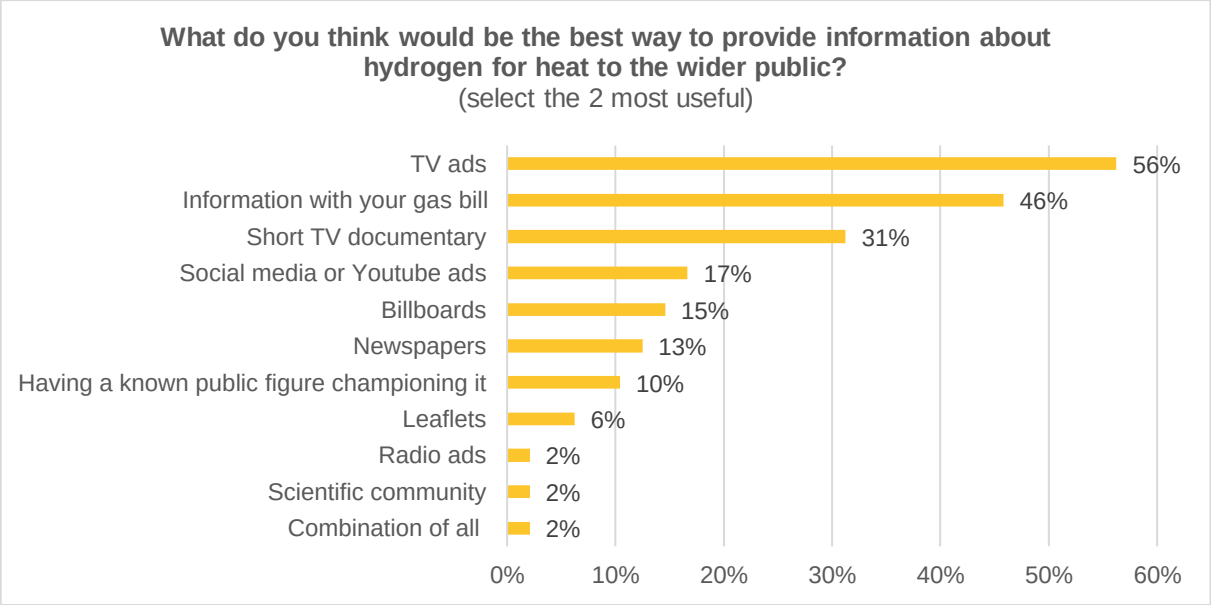
For the small number of members that concluded network companies should lead the communications their reasons tended to stem from the knowledge gained as being part of this Panel. They saw it as an opportunity for NGN to enhance wider understanding of their role.

They are the backbone of where it all starts and have the best direct knowledge

It will be good publicity for them, and I assume they are the ones working towards making this goal a reality, so the most appropriate

How should information be provided?

Members were also asked how information about the transition to Hydrogen should be presented to the wider public. The graph below shows the percentage of members who selected each form of media.[4]



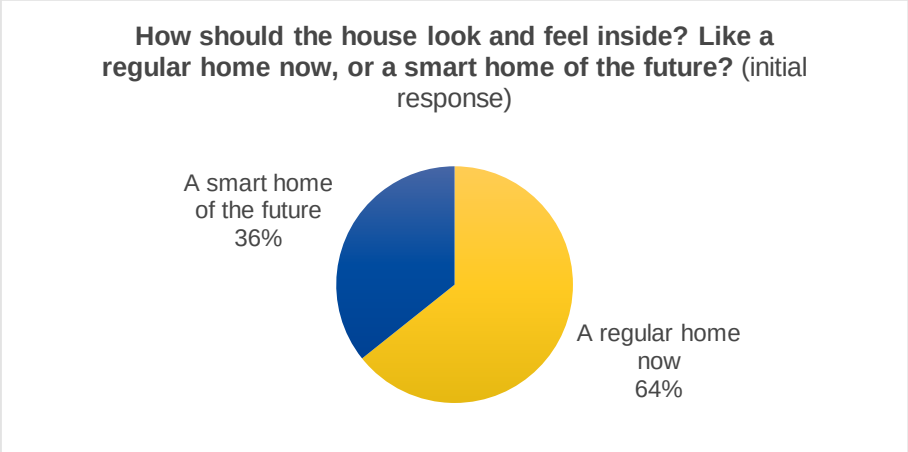
[4] The original question included the option of 'Other'. Individual members added Radio ads, the scientific community and a combination of all.

5. The Hydrogen House

In the final session of the morning the members were given a presentation introducing the Hydrogen House that NGN is constructing and outlining how NGN hoped to use it for engaging the public with the transition to hydrogen gas.

How the house should look and feel inside

One of the first questions members were asked about the Hydrogen House following the presentation was - *How should the house look and feel inside? Like a regular home now, or a smart home of the future?*[5]



Regular home as now

Initial responses, as shown above, indicate that almost 2/3 of the panel members (64%) felt that the Hydrogen display home should look and feel like the houses people are living in now i.e. familiar. There were also specific concerns raised in the early discussions that, if it did not look this way, the scale of change might be daunting, or even frightening, for some people. The rationale here was that showing people something they already have, and could retrofit, would reassure them.

Using a current home will allow people to see the benefits and give them a realistic experience

You can see it as it is now and how we live to understand the benefits better

By showing what can be done in an old house it will show it can be done for everyone

If I was looking, I'd want to know it wasn't going to make major alterations to my home I already have

I prefer the feeling of familiarity whether you're techy or not techy

[5] At the beginning of the discussions these two options were presented to members as a binary choice.

Futuristic smart home

In the initial discussions, those that preferred a ‘smart house’ presentation either already lived in smart house (and viewed it as normal) or believed that presenting the transition to Hydrogen could be shown as ‘just another way we are modernising our lives’. Their visions included:

Collab[orate] with all future tech companies- window, roof tiles, insulation, smart items etc. focus on environmentally friendly tech, but also smart fridges etc.

Combined with other energy saving items like smart meters and solar power

It can showcase a collaboration of future tech companies and demonstrate cost and environmental efficiency

A house that is limited to the use of a different gas will not be very interesting.

There was however, also some concern expressed in a few of the groups that that too much focus on creating a ‘smart home of the future’ might divert attention from the Hydrogen element.

If the house is too much like a smart home of the future, it may distract attention from the Hydrogen aspect, which I assume is the focus

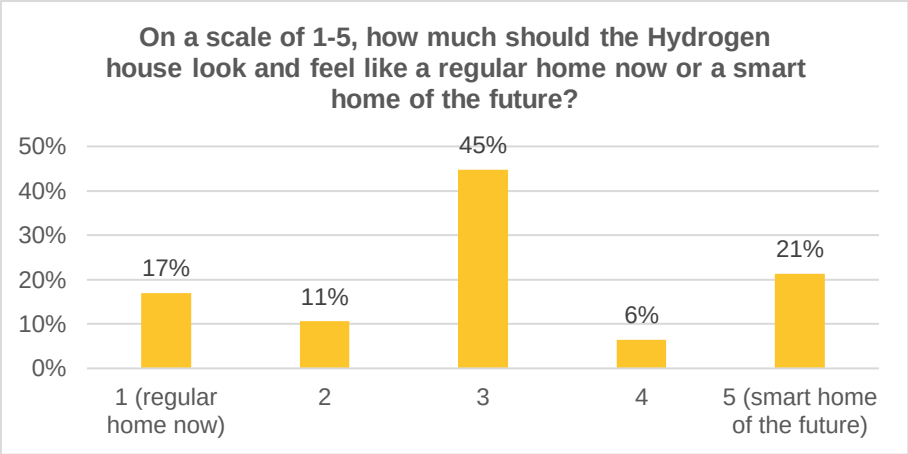
One home with each characteristic

Overall however, in the group discussions, there was a general consensus that (since the NGN presentation had mentioned the construction of two houses) that there should be one of each.

The technology might frighten older people… but the future house might be really attractive to younger people.

Since they have 2 - some would be comforted to see as now and others would be excited to see as smart home of future

When members were given the opportunity to indicate their individual preference after the conclusion of the meeting almost half selected what on the surface seems a middle route – however it is clear from the comments that this was intended to indicate a joint approach (i.e. constructing each house differently) that would appeal to different audiences.



The smart house would appeal to younger people, but most/many people can only consider living in older cheaper homes and we must show their houses can be adapted and keep them engaged. e.g. most folks won't consider an electric car until no choice despite agreeing with the theory.

People live in a mixture of houses older and newer and have different equipment already i.e. better boilers, better insulation. Everyone can see the benefits and will be able to relate more to it

I think you need to cover off both. For those concerned about the impact of the change on how they live (costs, new technology) then using a regular home is reassuring. It needs to be relatable. Other customers may be excited by the change and wish to see what the future could hold.

Preference for a regular home – post discussion

Of those who retained the position that the Hydrogen House should look and feel as much like a current house as possible, the main rationales related to supporting people to envision the transitions they would need to make.

People want to see how the changes would look in their own homes

Because the focus should be on the use of a "new" fuel. Where it is installed is irrelevant.

It needs to be relatable to people's own current homes so they understand that upgrading to hydrogen is not too onerous…. I think it would be better to inspire people with retrofit draft proofing and insulation demonstrations and showcase other relevant technologies such as heat exchange ventilation systems rather than show them a futuristic smart home that bears little relevance to their own living conditions.

A small number of members however, also took the opportunity to express the view that the Hydrogen House (as a show house) was not something they believed was a valuable investment, and therefore as little as possible should be invested in it.

There shouldn't be a house, unnecessary expenditure, as I said in the meeting

Preference for a smart home – post discussion

Among those who favoured a futuristic smart house a key point raised was that this would make people ambitious and forward thinking about how they could live in the future.

I think people would be interested in seeing a House of the Future and as a by-product of that would learn about Hydrogen. You have to have a wow factor to make people interested.

Future home to show it at its best if we are converting to newer appliances show all the improvements

I believe in change for the better. The future cannot be stopped so should be embraced.

Because we are in New era and everything is changing.

There was also the level of practical 'attract-ability' raised by a few Panel members at this stage – i.e. how to make the Hydrogen House worth visiting.

As people need the wow factor [futuristic smart home] will attract people more

If just the same then a bit underwhelming…. If Hydrogen hob /oven etc just looks the same then put other things in the home e.g. smart tech or do something with those appliances to make them seem different as this is more exciting.

Information provision

Following the introduction to the Hydrogen House the members were asked to consider the types of information that should be made available to visitors, and how it should be presented.

Types of information to make available to visitors

Members identified in their discussions the types of information that they felt would be most important to provide to visitors to the Hydrogen House. Across the groups a number of key themes emerged:

- **What it is like using Hydrogen for cooking?** – This was raised in all of the groups and featured strongly in members comments after the workshop. People felt visitors would be particularly interested in seeing side-by-side demonstrations of cooking on gas versus Hydrogen, a Hydrogen BBQ and even opportunities to try it out themselves e.g. by frying an egg. One group also suggested having a TV chef trying out the appliances and describing their experience.
- **Information about how Hydrogen is generated** – This was identified as important by members in all of the groups. It was felt that as it was such a new concept most people would not understand the manufacturing process and the by-products.

- **Safety of Hydrogen** – In four of the groups this was something that was agreed as important, with specific examples cited including the stability of the gas overall, the smell of the gas, what you'd need to do if a leak occurred and whether fire extinguishers would still work. There was an emphasis here on assuring the public that having Hydrogen in their homes was as safe as before.
- **Cost of appliances** – The cost to consumers remained an important area for information and something they believed needed to be set out clearly to visitors to the house. There were also points made that visitors would need to understand the timeline for needing to switch to Hydrogen appliances, particularly for visitors already considering replacing equipment, and whether there were manufacturers already producing Hydrogen ready appliances. Related to this several members felt that it was important to be clear about any additional costs to customers e.g. needing to replace pipework, needing specialist installation services etc.
- **Energy efficiency of the house** – In three of the groups, members noted that visitors to the house would need to be confident that there were significant environmental benefits to switching to Hydrogen in order to accept the disruption and potential costs to themselves. There was also a view expressed that, regardless of what other design or decorative choices were made, the house should be as energy efficient as possible.
- **The cost of Hydrogen Gas** – In three groups emphasis was placed on visitors needing to know the direct impact using Hydrogen in their homes would have on their gas bills. One suggestion was the use of a smart meters that enabled you to see the costs live, matched by a comparison to current cost.
- **Other energy efficiency measures** – Two of the groups reported that they believed it needed to be more than a Hydrogen House, but actually able to provide visitors with a wider range of tips and information for making their homes more energy efficient. In one case the group also suggested that information about alternative heat and energy sources should be provided on the site as well.

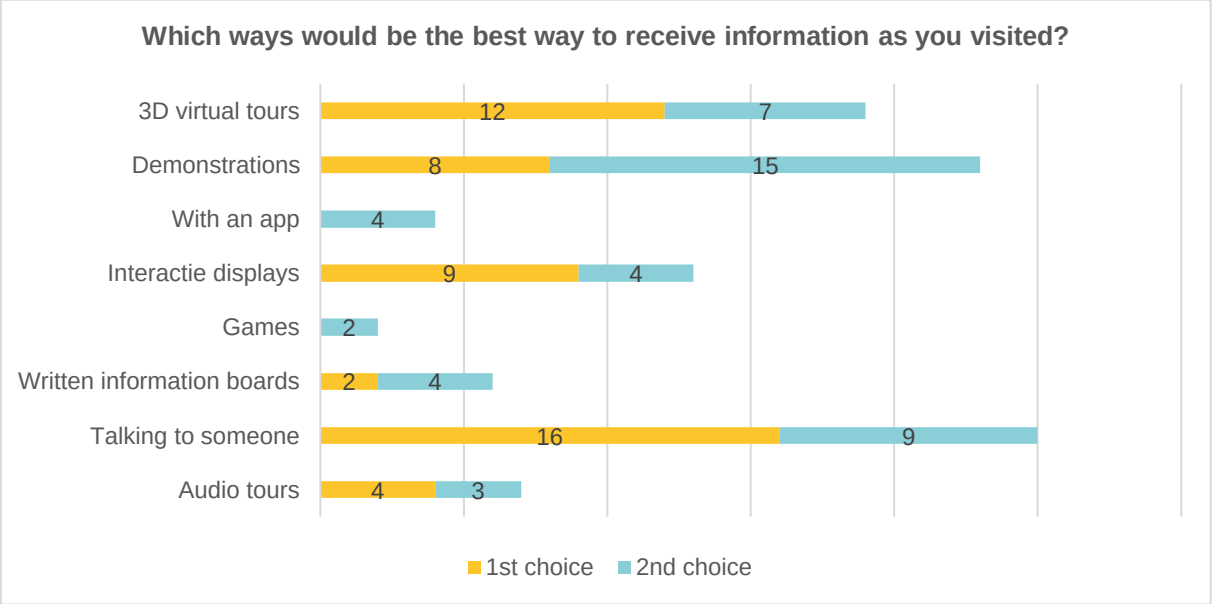
Highlight the materials used to build the house, their environmental credentials, etc. A house that demonstrates the house of the future and gives lots of information on all the various elements and how each of them contributes positively to low or zero carbon and highest possible environmental standards

How to provide information to visitors

While there was some interest in the house having high tech interactive displays and virtual tours expressed during the discussions, the post-workshop survey showed that most members felt that information should be provided in person – either by someone you could approach with questions, a series of presentations or demonstrations of the features of the house.

I think people like the human interaction to compliment AV type demos

Somebody talking face to face. Tailored answers



There was however, significant interest expressed in three of the groups about the option of providing virtual on-line tours so that people did not have to travel to see the house to learn about the switch to hydrogen.

Watch online: it's fine, you don't have to go into a demo house.

Make virtual tours available so people could view from their own homes...should be able to click on elements e.g. boiler, windows, doors, etc, to provide real information on cost, timeframe for fitting, environmental impact/savings, etc

Making the house attractive to visitors

Members were very supportive of NGN holding events in the house as a way of attracting visitors and identified a range of different types of events that they believed would work.

- **Cookery demonstrations / classes** – Most groups highlighted this as a fun and practical way of introducing people to Hydrogen and something that might attract people who were not interested in the gas transition itself.

  Demonstrate the differences. Cook food for people to eat! Have freebies to take away.

- **Opportunity to stay overnight** – It was suggested in three of the groups that giving people the chance to actually 'live' in the house and learn how to use the equipment might be a way of attracting attention and reassuring people that it would still just 'feel like home'. Other members suggested that something like a 'Big Brother' immersive experience that could be publicised would generate interest.

- **Links to the curriculum** – Two of the groups focused on the opportunity to host school and college visits, with one suggesting that the information in the house could be linked to NVQs and give people certificated learning.

The members also identified a number of other features and approaches that they believed would help attract visitors.

- **Linking it to the bigger agenda of decarbonising the UK** – Here again three groups emphasised that the house should not just be about Hydrogen, but rather promote the wider net zero agenda by being a hub for green technologies. One group also suggested that having a Hydrogen vehicle associated with the house could attract different audiences.

  Exhibition should provide context to the switch to Hydrogen including hydrogen generation information, global heating information and ideally should cover other green technologies (eg. hydrogen fuel cells) too so it is a full day out.

  Don't make it just about Hydrogen, if it was it would be a very short visit

- **Incentives** – In two groups there was the suggestion made that people would need an incentive to visit. In both cases it was suggested that NGN should partner with gas suppliers to offer customers a discount off their gas bill following a visit.

  To extend beyond 'preaching to the converted' work in partnership with suppliers to offer a small reduction in people's bills if they visit; it is in the suppliers' interest too that people are early/willing adopters.

- **Change its location** – In three of the groups members identified the location as the biggest barrier to attracting visitors, noting that very few people would travel far to visit it. There were suggestions made that it needed to be re-sited to urban centres and/or attached to existing sites that people visit. One group even suggested that a better option than building the house would be to develop a mobile home or caravan fitted with the appliances and take it out across the network to where people are already gathered.

  A more central location, or tying it into a visitor attraction like Beamish would have made it more accessible to people

At this stage a number of members also expressed the view that building the Hydrogen House was not an effective use of resources to educate the public about the use of Hydrogen in their homes. Two groups in particular concluded that the costs shared with them for building and operating the Hydrogen House were a waste of money and argued that it was not something NGN should be doing.

One of the key concerns raised by members in these groups was that it would simply not be attractive to people to visit.

Whilst the intentions are sincere I'm afraid it might fail to attract sufficient interest to achieve its objective.

There was also further examples of this view expressed in the post-workshop survey where people again returned to the argument that a virtual tour of a virtual house would be more useful and accessible

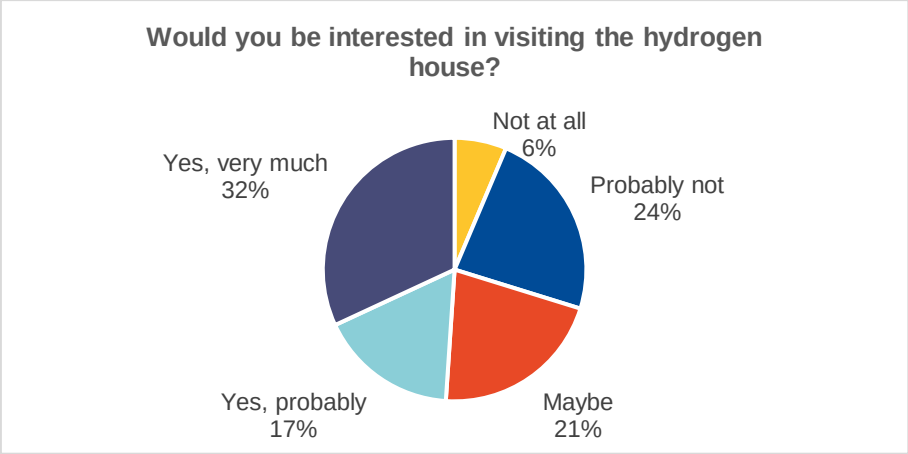
I wouldn't feel the need to visit it in person and a virtual tour would suffice. Perhaps if it was in my local area and I just walked past it I'd go in.

It's miles away and a new build house which will be small and not relevant to me at all, I would prefer a video tour online

Would Panel members visit?

At the end of the morning members were asked if they, personally, would be interested in visit the Hydrogen House.

- 49% of members responded positively to the idea.
- 30% of members however reported that they would not be interested or would be unlikely to choose to visit.



For those who stated they would like to visit four main reasons were given:

- An interest in green technology and low carbon solutions

I see this as the future, may as well learn more about it

Lots of technology I am not aware of which could help with energy savings and the environment.

- To see how it would really work in practice

It sounds interesting and physically experiencing something is more beneficial that hearing or reading about it.

See how it would behave or look in a home

- To find out more about the safety side of using hydrogen in your home

To see how safe it is practically [to] use the appliance

To get reassurance that my home and family would be safe using hydrogen

- Because of their involvement in this Panel

See what it's all about and then be able to give a good bit of feedback

It's not too far for me to travel and why not. I am interested in the future and feel it would help my knowledge which will compliment my participation on the NGN Public Panel.

For those who expressed little, or no, interest in visiting the house many of the reasons given related to relative location, with 7% stating that it was too far away or that they wouldn't travel to visit it.

For the other members it came down to the fact that they just did not find the prospect particularly interesting.

I don't see any benefit on visiting somewhere just to look at something that is nearly identical to how it is now

Who wants to go out to look at a cooker and boiler in a house?

If I had an hour to kill in Gateshead and it was cold and raining and there was nothing else to do.

6. Education and Skills strategy

In the afternoon meeting the focus was on the Education and Skills strategy that NGN is developing. Members heard a little about how NGN's education work is currently delivered, including the regulatory obligation to educate customers about gas safety. In framing the discussions it was acknowledged by NGN that, while there had been lots of valuable work undertaken to date, it had been quite ad hoc and the goal now was to take a more strategic approach to prioritising activity.

The objectives of the afternoon were to:

1. Understand if, and why, customers think NGN should be delivering an education strategy;
2. Explore what the objectives for an Education & Skills strategy should be;
3. Understand where customers think NGN could have the most impact and the types of activities that would deliver on this.

Where should the Strategy focus?

Members began with a quite open discussion about why it would be valuable for NGN to have an Education and Skills strategy. Initially members were quite split on whether this was a role for NGN to play, and there was some confusion about where this could add to the role of formal education. However, as the discussions progressed, members were able to identify a range of potential areas of focus where NGN could use its position as an employer, and as an energy company, to add value across the network area.

These were consolidated into a list of 10 possible strategic objectives for inclusion and presented back to members in the post-workshop survey. Here they were asked to identify, in order of priority, the three most important to focus on.[6]

The objective that was supported most strongly was that the Education and Skills strategy should focus on **high quality jobs for young people**. It was felt by many members that this was a key role for an anchor company in the region and something that could stretch across a wide range of employment areas within the company – from engineering to customer services.

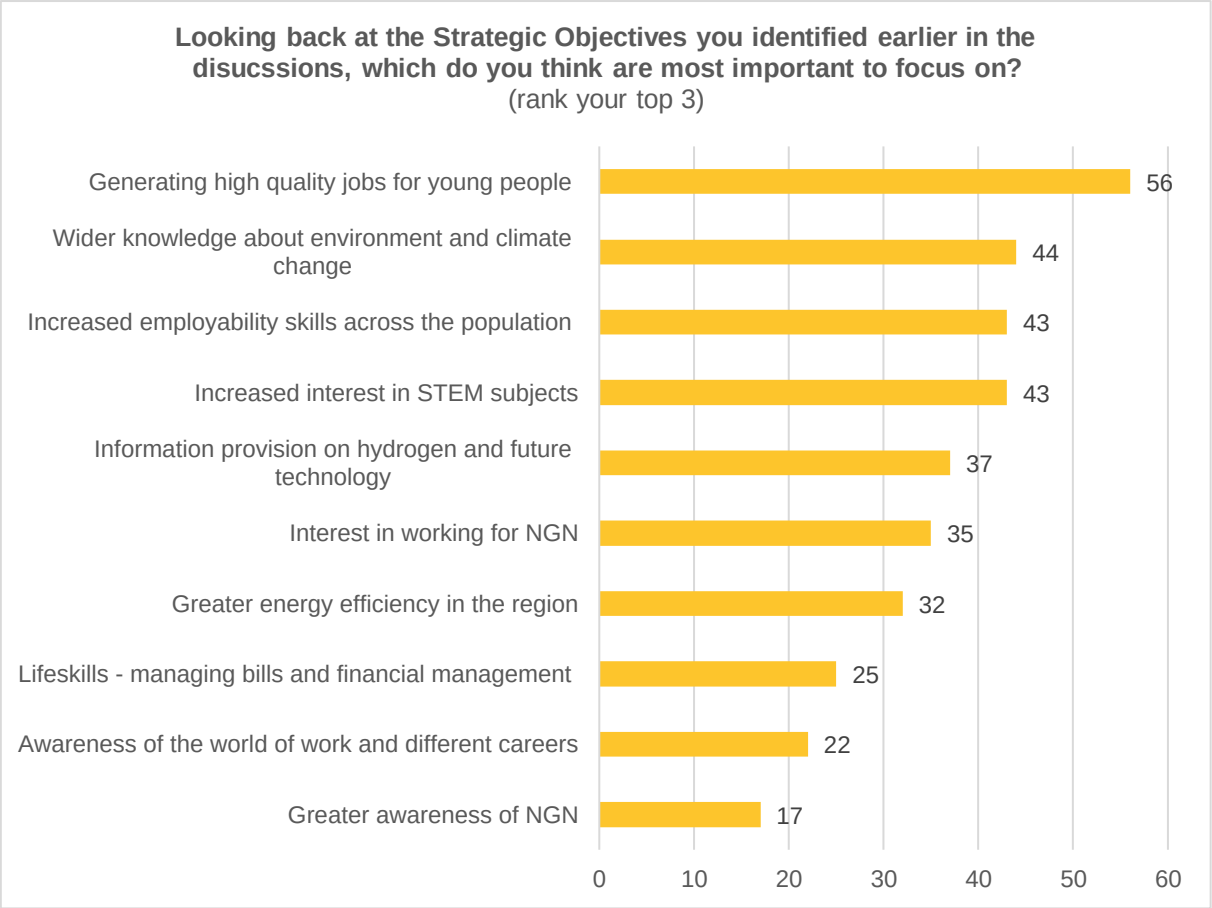
Get young people actually working in tech jobs on shop floor, whether that is through education or placements and bring them on

For NGN recruitment – [not just] focussing on the technical aspects, NGN has marketing team, community team, etc not just technical specialists?

Fund local engineering colleges towards specific projects, that may lead to NGN name and recruitment

Show the variety of skills needed and the various pathways they take you

[6] The results have been calculated as a Borda Poll, where the top priority is allocated 3 points, the 2nd priority allocated 2 points, and the 3rd priority 1 point.



Although ranked lower overall, much of the discussion here was about how NGN could support wider engagement with STEM education, particularly for girls, so that young people making subject choices had a better understanding of where future jobs may exist.

STEM project work with schools, so future engineers - building knowledge and skills and a love of those subjects

Higher uptake of STEM subjects as route to profitable employment.

Educate the future engineers and scientists to help solve the environmental issues caused by gas.

There was also considerable attention given to the role that NGN could play in building overall employability skills through mentoring, work placements and participating in career fairs for students.

The other main objective prioritised by members related to the role NGN could play in building **wider knowledge about the environment and climate change** across the region. There was a widely held view among members that NGN had a specific responsibility to be working with customers to understand the impacts of gas use and the future challenges relating to net zero.

Should have a focus on the environment, generally informing and teaching the population about how to be environmentally aware and responsible and all the tech options and incentives that are available to assist the journey

Educate including young people, kids, vulnerable and older about climate change and the work they will be doing/how things might change in the future

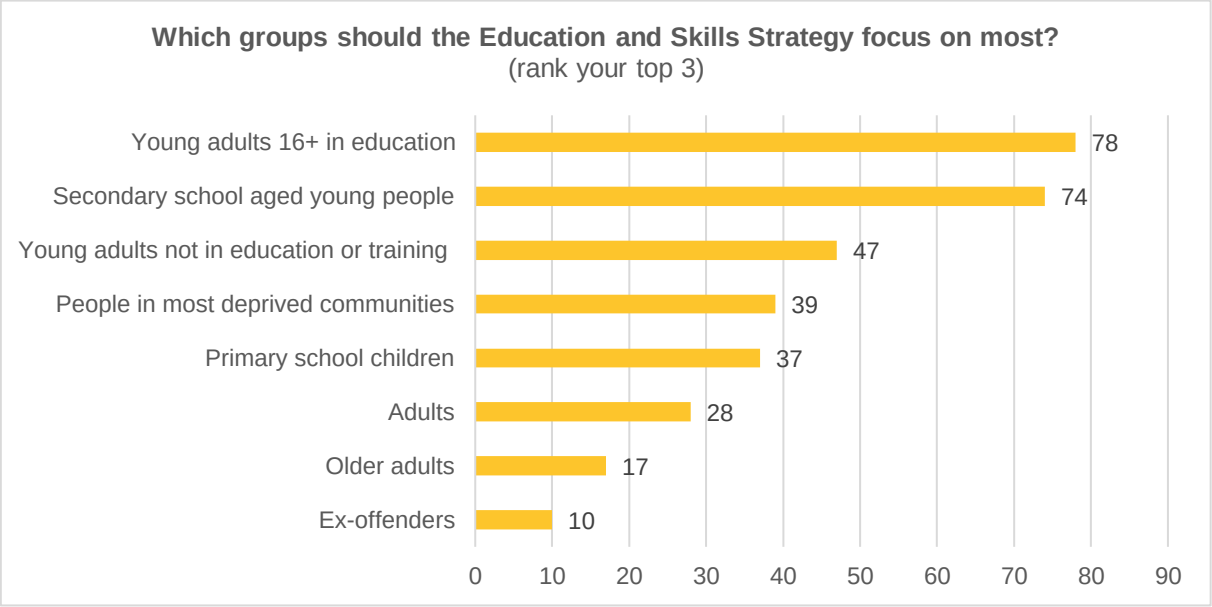
Common aim on climate change and educating people in a way that that is easy to understand and gets people on board

In the discussion this priority was also clearly linked to the role NGN could play in providing advice and information to help people understand how to increase energy efficiency in their own homes. This in turn was often linked to the need for greater financial literacy across sectors of the population so that they could better manage their energy bills.

Older children: people in rental accommodation: energy efficiency and money management: you don't get taught that at school

Who should the Education and Skills strategy focus on?

Although introduced as primarily being a strategy focussing on young people, the members were given the opportunity to explore whether there were other groups in society, or particular groups of young people, that should be NGN's focus when developing Education and Skills initiatives.[7]



The majority of members consistently prioritised young people in education as the groups they felt would most benefit from Education and Skills initiatives.

Teenagers and young adults may be ignorant of or believe they're unsuited to STEM careers. Industry has a responsibility to communicate opportunities and provide work experience, work placements and

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apprenticeships so they can see what a STEM career could be like, link their studies to real-world achievements and grow their confidence.

All groups good but think could be most effective with secondary educated groups. Think can cover lots of previous list with this group, such as STEM, working for NGN etc plus an intro to life skills such as budgeting.

In two of the groups also specifically noted that a focus should be given to inclusivity and ensuring that opportunities to benefit were made available to all.

There's a lot of judgements made about areas of deprivation so it needs to be accessible and equal opportunities to all, no matter your background - not a specific socio economic group

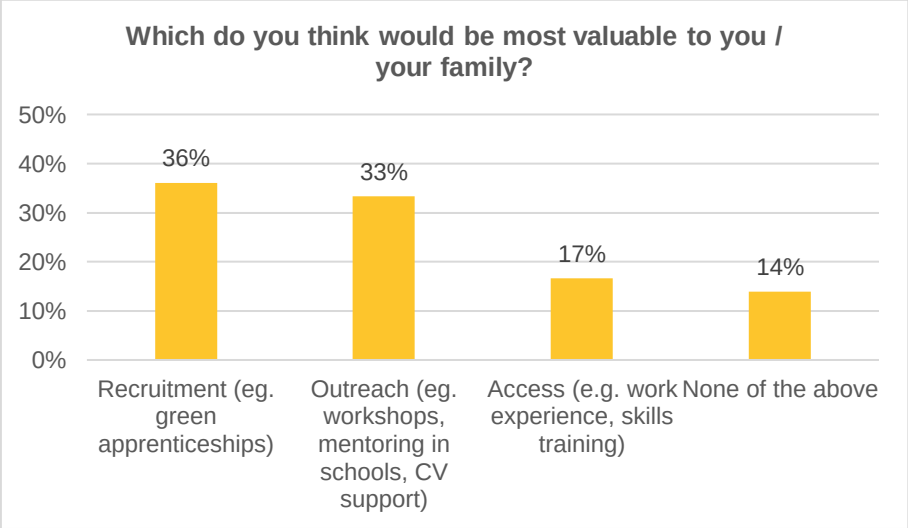
To be honest I think everyone is important and there should be no most important. I feel that everyone has something to give regardless of age, background, education status

7. Social Mobility Pledge

During the afternoon members also explored the relative value of NGN focusing on the different areas of activity identified in their Social Mobility Pledge:

1. **Recruitment** - open recruitment practices which promote a level playing field for people from disadvantaged backgrounds (i.e. green apprenticeships or no need for driving licence);
2. **Outreach** - reaching out to schools, colleges and communities (e.g. through workshops, mentoring in schools, CV support); and
3. **Access** - providing structured work experience to people from disadvantaged backgrounds/circumstances. (e.g. work placements, skills training).

Following a discussion about the impacts for the community NGN could make through these different commitments, members were asked which they felt would be most valuable, both to themselves/their families and to the Northern region more broadly.



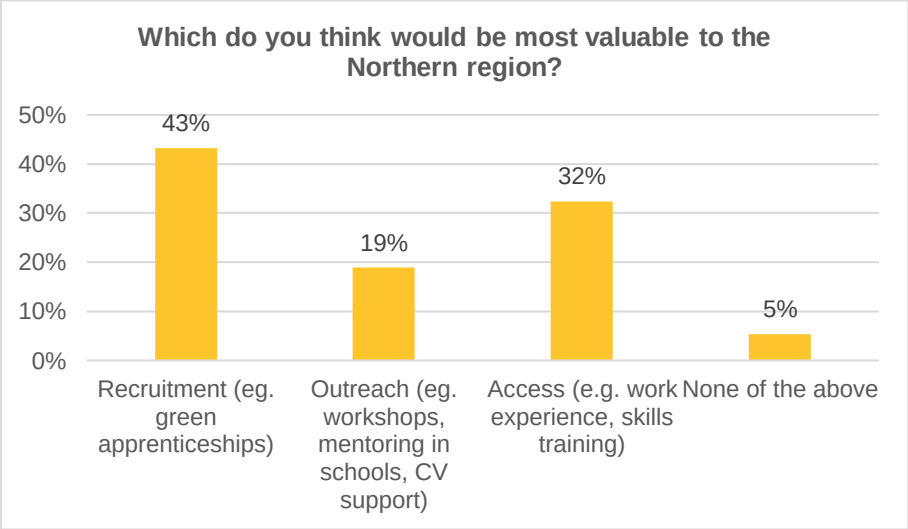
In general members saw value in all of the three social mobility commitments and could see how they could benefit individuals. There was a lot of discussion in the groups about the need for quality jobs in the North, and members expressed considerable concern about the availability of work for all sectors of the population given the current pandemic and its impacts on business. Where members voted for 'none of the above' here it tended to be because they saw no personal relevance to the initiatives.

When asked to consider what would be most valuable for the Northern region the results shifted significantly and considerably more emphasis was placed on recruitment (prioritised by 43%).

Jobs give people the ability to lift themselves out of poverty

I would like to say how impressed I am that NGN is meaningfully tackling the barriers to employment that potential applicants from more disadvantaged backgrounds may face - the Driving Licence example was very interesting. Often people can find themselves in a Catch-22 situation,

unable to take advantage of a wide range of different opportunities that would help them to achieve better financial stability because they lack the financial stability (savings or disposable income) to do it.



In the discussions significant focus was given to the apprenticeship aspect of the recruitment commitment that was given as an example in the presentation. Many people expressed support for this as being a practical way to help young people into meaningful careers.

Apprenticeships provide career paths and opportunities for young people who aren't continuing into higher education. The chance to gain the skills that will hopefully provide a long career supports NGN's and the Government's commitment to the Social Mobility Pledge.

Apprenticeships are very positive and valuable for the country and individuals

It is hard to get jobs and skills, especially for students who have left education so it would be good for them to start somewhere

In the group discussions three of the groups also focussed on where initiatives like this should be focussed, questioning the traditional definition of disadvantaged. They emphasised that NGN had a responsibility to consider the diversity of its workforce, and focus on creating an inclusive recruitment policy that enhanced the company's racial diversity and opportunities for people with a disability.

Try to bring in ethnic minorities - workforce should represent the demographic of the north so that [NGN is] reflecting its customers.

NGN should go out of their way to include disabled people.

The priority given to Access also changed when members were asked to consider the Northern region as a whole, moving up to second ranking (prioritised by 32% of members). Here it was recognised that, while NGN could not give employment to everyone, it could provide valuable work experience that would support people to gain employment elsewhere.

You can't beat hands on experience to get people interested in work.

Young people need to experience working environments in order to make choices.

Think young people need as many skills they can get at the moment

A few members who supported this option further noted that these types of opportunities could also have a positive impact on an individual's ability to increase their own social mobility.

Poor self-confidence is a key factor which prevents upward social mobility. Well designed access activities can give people the boost in self-confidence to move ahead.

A lot of people stay stuck in the job they're in because they don't know about other opportunities available. If they know and have easier access to further training and skills they may be better changing fields or experiencing something different. Especially when Covid ends certain fields will take longer to get back up to normal

For the small number of members who voted for 'none of the above' the reasons given were that they did not think this was something that should be a priority for NGN.

Good practice examples

In the final part of the day members were invited to share examples of any 'good' skills and education outreach programmes or recruitment practices that they knew of from their own experience. The intention here was to see what NGN could learn from what had worked well for people in the past.

Adding value to work experience

When members reflected on their own experience of work placements (either as a participant or an employer) there were a variety of practical suggestions put forward to help ensure these are most valuable:

- **The length of time** – while most school placements are for only one week members felt that this was too short to really get a sense of what employment would be like, suggesting at least 2-4 weeks was needed.
- **Getting an overview of an organisation** – members noted that the opportunity for people on placement to move around within an organisation, to understand the bigger picture, was valuable to aid understanding of how a given role contributes.
- **Real experience** – Members emphasised that work placements were only valuable when they involved people having a 'real' experience of what the job was like, rather than being used to provide unpaid, unskilled labour to an organisation.

- **Involve substantial work** – Members also emphasised that, where possible, people on placement should have the opportunity to actually do substantial aspects of the job (rather than just shadowing or observing) for the placement to have the most value.
- **Structured** – In several groups members noted the need for placements to have a clear structure that enabled people to 'tick-off' what they had learnt. This, it was felt, enabled people to have a sense of achievement at the end. One suggestion to enhance this was that placement students should keep a learning log or journal, as this would encourage and support an active reflection process that would benefit them beyond the actual learning experience.

Supporting STEM learning

In relation to outreach members tended to focus on examples that supported STEM learning in schools and colleges, as this was something they saw as a valuable role for NGN. Several members drew on specific examples they were familiar with to make suggestions for NGN:

> *Shell do a schools programme with a solar panelled car - NGN could do a similar challenge session with secondary pupils on hydrogen cars - 14 year olds will come up with great ideas and this will get them excited*

> *What about working with the UTCs and giving the student engineering projects. Our local one has a learning suit sponsored and created by Siemens with offshore wind challenges and issues for students to problem solve.*

> *You could develop UTC projects and create challenges that practically promote and encourage engineering and scientific ways of thinking for the 16+*

> *Support STEM classes by providing resources covering NGN activities/case studies – means schools will have a better idea of where they can send students for work experience*

Effective recruitment

When thinking about recruitment considerable focus was given to apprentice schemes and job opportunities that **embedded training** at their core.

> *[Look at] different types of apprenticeships: office style apprenticeship, not just the technical jobs : plumber, tradesperson. Stereotypes about apprenticeships: need to show they are open to more people: office based jobs.*

Another aspect that members focussed on was **advertising**. They felt that many adverts gave a misleading impression of jobs and that this made it difficult for people, particularly young people just entering work, to understand the reality of what a job would involve.

Army adds [all have] soldiers skiing and scuba diving: the "not so nice" bits of army jobs are not advertised

A number of groups suggested that, to help overcome this, it was important for potential recruits to have the opportunity to talk directly to someone about a job before applying.

Local Renewable energy company / wind turbine: used the main library as an outreach centre, where you were able to access advisors. Great opportunity for the company to reach out.

Have people who have been in the job be the people to express and explain what the job is - a real person who knows the actual job complexities and can answer complex questions

Taster sessions to meet and see real people, job environment and be able to ask questions about job details to people who do the job

A final aspect that members focussed on was **interview and assessment processes**. They highlighted that these can disadvantage people unfamiliar with the world of work or from more deprived backgrounds. Members felt that it was important that NGN considered how it approached these tasks if it was serious about realising its social mobility goals.

If someone from a disadvantaged background, they may not know anyone with any experience of recruitment - so need to take account of this too

Don't interview by an algorithm - if you don't use the right words in an answer then you get dropped