

## NZCom Scenarios workshop report

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The NZCom scenarios workshop was held on 24<sup>th</sup> March 2022. Energy was uppermost in the social and political context at the time, reflecting the fuel price rises and the impacts of the war in Ukraine. The workshop was held just after the [2022 Spring Statement](#), and two weeks before the release of the [British Energy Security Strategy 2022](#).

### 1. Workshop aims and participants

The workshop aimed to summarise Exeter's work on scenarios and present the draft local scenarios for NZCom, and gather feedback on:

- Overall approach
- Local adoption of key technologies
- Integration of societal engagement
- Validity of the scenarios
- Replicability

All the feedback is summarised below. This incorporates feedback received on mentimeter, live discussion, and comments from the teams chat. The full presentation slides from the workshop and the mentimeter feedback [can be viewed here](#).

### Workshop participants

Participants drew on their knowledge and expertise from the following sectors:

- NZ Com project team
- Community Energy Plus, Energy Advisors
- Wadebridge Renewable Energy Network (WREN): Project, staff members, board members
- Western Power Distribution
- National Grid ESO
- Frazer Nash Consultancy
- Cornwall County Council
- Communities for Renewables
- University of Exeter
- UK-wide and Cornwall-focused sustainability, energy and net zero consultants, social enterprises and installers

Participants were invited based on their professional/voluntary connections to net zero and who are supportive of the aims of the [NZCom project](#). Whilst they draw on both their professional and personal experiences and expertise, we did not invite participants to represent the range of constituencies and sectors in the area. We acknowledge that the responses reflect a high degree of engagement and knowledge with net zero agenda.

## 2. Net zero context

### What one word do you associate with net zero?

#### 2.1 Associations with net zero

Participants contributed a range of words in response to the question 'What one word do you associate with net zero?' These were divided between:

- Optimistic associations such as *inspiring*, *possible* (4)
- Suggested difficulties, such as *challenging*, *hard* and *complicated* (4)
- More pessimistic associations such as *pipedream*, *unrealistic*, *insufficient*, *unequal* (4)
- Words which belied cynicism about policy, such as *deliberate misuse*, *obfuscation*, *insufficient*
- Neutral words, such as *energy*, *carbon*, *heat*



#### 2.2 Confidence in national policy and leadership

**How confident are you that national policy and leadership will be sufficient to enable the local shift to net zero?**

- Verbal responses to this question suggested low confidence and despair.

## 3. Testing the NZCom scenarios approach and framework

The NZCom framework draws down from the National and Distributional Future Energy Scenarios (FES), and draws up from local data, knowledge and experience of the project partners. After presenting the framework, most participants (n=15) agreed/strongly agreed on both of the following statements:

- 'National/regional scenarios are appropriate starting points for developing local scenarios'; and
- 'A focus on societal engagement (rather than societal change) is appropriate'

#### Presentation of the draft scenarios: technologies

The scenarios (shown in Figure 1) are differentiated between:

- **Steady progression:** where progress towards NZ is piecemeal, unfocused and doesn't meet NZ targets.
- **System Transition:** which primarily focuses on changes in the energy infrastructure, such as hydrogen for heat.
- **Societal Transformation:** where the primary focus is on behavioural change for carbon reduction, adoption of smart technologies and widespread retrofit, based on interventions and technologies appropriate to the local area.

In the discussion, the importance of factoring in the interactions between the technical infrastructure and changes in behaviours was highlighted.

FIGURE 1. TECHNOLOGIES ACROSS THE SCENARIOS

## Technologies across the scenarios

	Steady progression	System transition	Societal transformation
NZ by 2050	No: slow progress	Yes - faster	Yes, accelerated
Technological focus	Unfocused	Technology-led, system-centric	Place-based, consumer/citizen-centric
Generation	Some incremental uptake of RE generation; Minimal flexibility	Large scale wind & solar preferred to small-scale wind & rooftop solar	Widespread uptake of rooftop PV, alongside larger-scale options
Mobility	Majority of cars are BEVs; some hybrids remain	All cars are BEVs; limited uptake of other modes	All cars are BEVs; lower demand for transport overall, with some shift to other modes
Heat	Ongoing reliance on gas for those connected	Hydrogen plays key role	Electrification of heat; small role for hydrogen
Domestic efficiency	Very low ambition for retrofits	Medium ambition in retrofits	Widespread retrofit – 95% of housing stock renovated to high standard

### 4. Local adoption of key technologies.

The key technologies across the scenarios were presented, to explore

- The validity of top-down projections given the capacity, resources and ambition of the W&P area
- The speed of acceleration of key technologies
- The targeting of technologies: to which parts of the community should technological adoption be targeted?

*Note:*

In wording the questions about technology acceleration (e.g. when *might* rooftop solar PV installations accelerate?), we acknowledge that the word ‘might’ was ambiguous, and was open to interpretation by participants. Plausible energy futures represent ideas about what could happen – given technological costs, policy and regulatory environments, and the degree to which local communities support or challenge local technology deployment. What is plausible in local areas will also be shaped by what people think *should* happen – for themselves and for their communities, and for reasons of carbon reduction, energy security, affordability and poverty reduction. The word ‘*might*’ attempted to invite a personal interpretation to these should/could tensions, but we recognise that further discussion could have helped explore the interactions – and tensions – between the practicalities and ambitions of local energy system change.

#### 4.1 Rooftop solar photovoltaic (PV)

##### When might rooftop solar PV installations accelerate? (n=15)

10 participants selected the 2020s, 5 the 2030s. There were no responses beyond the 2030s.

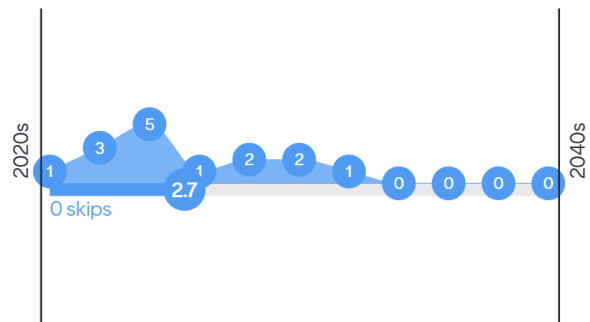
In response to the question ‘**Where should rooftop solar in the area be focused?**’, the priority for focusing rooftop solar PV was wherever the highest efficiencies can be found, followed by fuel poor households and social housing, owner occupiers and lastly second homes (n=14).

##### 4.1.1 Arising questions and reflections:

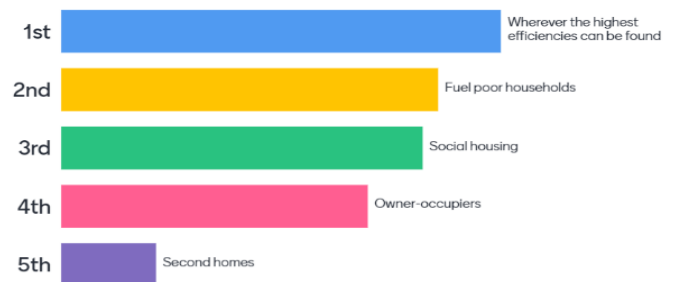
Issues of equity and efficiency were reflected in the discussion:

- ~ Who is paying for the solar installations?
- ~ Suggestion that financial incentives should be targeted at fuel poor, and not be subsidies for those able to pay/second homeowners.
- ~ There are trade-offs between requiring those who have more capital to install solar PV, whilst recognising that PV installed on second homes has high efficiency when the homes are occupied but need to ensure that PV does not encourage more electricity usage.
- ~ Need to explore the synergies and overlaps between tenants and landlords in the private rented sector.

## When might rooftop solar PV installations accelerate?



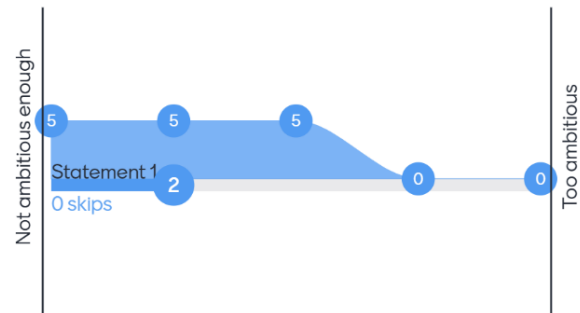
## Where should rooftop solar in the area be focused?



## 4.2 Ground mounted solar PV

The range of responses (n=15) to the question of 'are projections for ground mounted solar too ambitious or not ambitious enough?' veered towards not ambitious enough. No respondent said they were too ambitious.

### Are projections for local ground-mounted solar too ambitious, or not ambitious enough ?



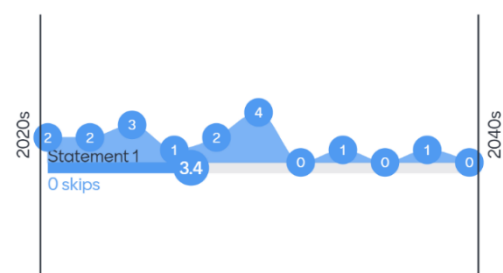
### 4.2.1 Arising questions and reflections:

- ~ Ownership and management of ground-mounted solar is important, with preference for local ownership and management.
- ~ *'Maybe ambition isn't just about quantity, but about quality, so we're talking about ambition we're talking about a lot and better installations, in the right place, with the right people, managed by the right communities.'*
- ~ Need to explore the interactions between ground mounted solar and demand mitigation.
- ~ *'We should we using wind over solar on the land. Not a good use of land space.'*

## 4.3 Heat pumps

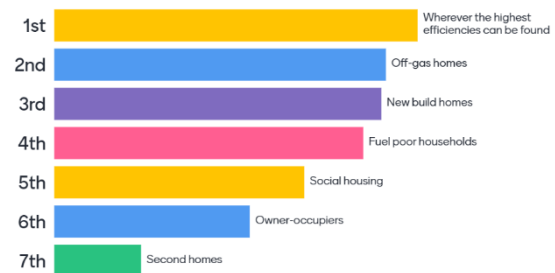
Respondents (n=16) suggested that heat pump installation might accelerate in the 2020s-2030s. Comments and responses emphasised the importance of domestic thermal upgrades and retrofits before heat pump installation.

### When might heat pump installations accelerate?



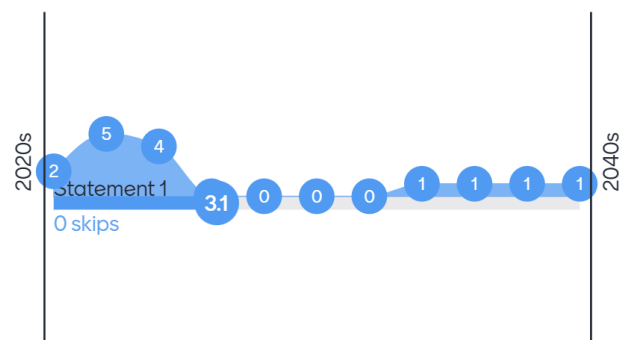
The responses to where heat pump installations should be focused were mixed, which partially reflected the need for thermal upgrades before heat pump installation. This was reflected in the highest priority being 'wherever the highest efficiencies can be found', and the concern that fuel bills would rise if heat pump installation came before thermal upgrades.

## Where should heat pumps in the area be focused?



### 4.4 Onshore wind

The majority of responses (n=15) to the question of 'when might onshore wind capacity accelerate?' suggested the 2020s, with some in the 2030s-40s. Discussion reflected on the policy constraints of onshore wind generation, and the upcoming energy strategy announcements.

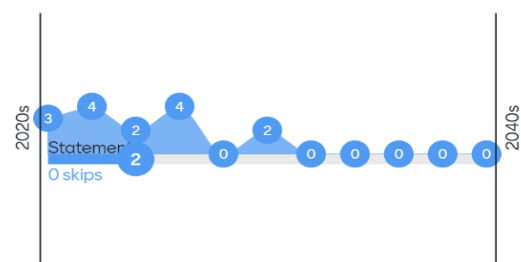


### 4.5 Electric vehicle (EV) charging

Respondents (n=15) focused on the 2020-2030s for acceleration of EV charging points.

Respondents suggested that EV charging points should be focused in public areas, although comments suggested that they needed to be in all areas, particularly to serve residents without off-road parking.

## When might EV charging installations accelerate?



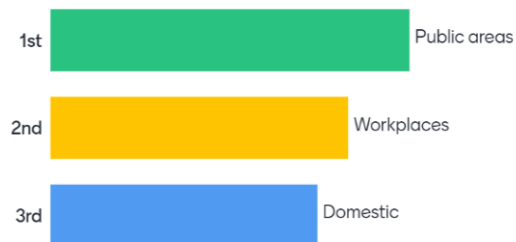
Other modes of transport that could play a role in the area included a high support for public transport and walking and cycling, and modest support for car sharing and car clubs. Participants raised the difficulties and practicalities of car clubs in rural areas.

#### 4.5.1 *Arising comments, reflections and discussion*

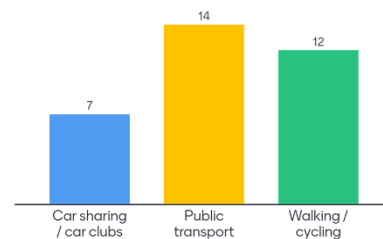
Some comments focused on the feasibility and desirability of electrifying existing car stocks given the resource implications of electric cars and batteries.

The need to account for the impact of home-working on assumptions for EV charging was acknowledged.

## Where should EV charging in the area be focused?



## Which other modes of transport could play a role in the area by 2050?

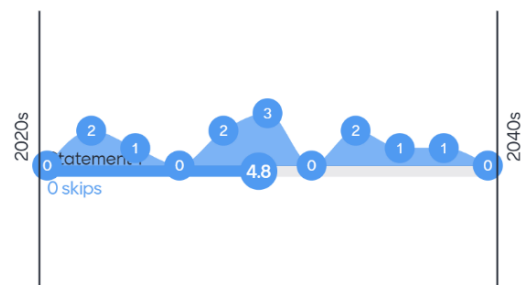


## 4.6 Domestic retrofits

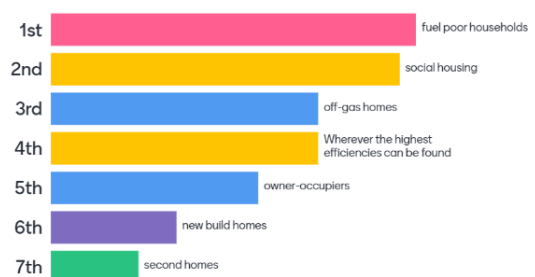
Responses to the acceleration of domestic retrofits (n=12) were spread between the 2020s-2040s. Comments included the difficulty of acceleration without strong policy support and priorities, and scepticism about whether this may change.

Respondents (n=12) suggested domestic retrofits should be focused on fuel poor household and social housing, followed by off gas homes and wherever the highest efficiencies can be found.

## When might domestic retrofits accelerate?



## Where should domestic retrofits in the area be focused?



#### 4.6.1 *Arising comments, reflections and discussion*

- ~ Ensuring new build homes are future proofed, and the need to retrofit and thermally upgrade recently built homes due to inadequate building standards



- ~ Availability of funding and grants: if retrofits are grant funded then they should be focused on fuel poor. If grant funding is not forthcoming, then should be focused on social housing and owner-occupiers supply chain.
- ~ Need to recognise and include the private rented sector in retrofitting.

## 5. Engagement for NZ

The differences of engagement approaches across the scenarios were highlighted, as shown in Figure 2. This focused on the need for targeted engagement for the societal transformation scenario, to ensure technological interventions were tailored to include those with vulnerable characteristics.

FIGURE 2: ENGAGEMENT ACROSS THE SCENARIOS

### Engagement across the scenarios



	Steady progression	System transition	Societal transformation
<b>NZ by 2050</b>	No: slow progress	Yes - faster	Yes, accelerated
<b>Focus of Interventions</b>	Unfocused	Technology-led, system-centric	Place-based, consumer/citizen-centric
<b>Engagement</b>	Some, although patchy and uncoordinated	Limited to broad audiences, and to information provision	Targeted engagement; tailored to specific tech challenges; encompassing participation, consultation and information provision
<b>Vulnerability</b>	Not addressed	Those least willing / able to participate are left out	Targeted engagement and tech deployment, no-one left behind
<b>Tensions / requirements</b>	No bold leadership or resourcing Policy gaps remain	Uncertainties around key infrastructures (e.g. hydrogen)	Lots of interdependencies between tech deployment and engagement Need for local capacity / ambition

#### 5.1 Distinguishing between the scenarios

The responses were evenly split between being able to distinguish between the scenarios, between 'yes' and 'to some degree'.



## 5.2 Engaging residents

We asked which local actors should have responsibility to engage *vulnerable residents* (n=13) and *the community at large* (n=11) with net zero.

Respondents saw a strong responsibility for Energy advisors (such as WREN and CEP) to engage both vulnerable residents and the community at large with net zero.

Parish and town councils, food banks/Citizen's Advice and primary care providers were identified as having more responsibility to engage vulnerable residents than the community at large, whereas building trades and renewable installers were identified as having more responsibility to engage the community at large than vulnerable residents.

Which of the following local actors should have responsibility to engage *vulnerable residents* with net zero?



Which of the following local actors should have responsibility to engage the *community at large* with net zero?



### 5.2.1 Arising comments, reflections and discussion

Discussion about the responsibilities to engage vulnerable residents focused on the impact that the hollowing out of the state had on the actors who were in contact with vulnerable residents. Whilst social care agencies were trusted, they had little resource and capacity to do anything over and above their primary duties: *'they are trusted by the people who use them, but their ability to take on the issues of energy and its relationship to wellbeing is pretty limited to be honest'*.

## 5.3 Enabling engagement

In response to the question 'What key factors with net zero/resources could best enable this engagement with *vulnerable residents*?', the following were identified:

- ~ User-centred and designed communications
- ~ Using both digital and non-digital forms of engagement
- ~ Importance of working with and through trusted messengers – who need training, knowledge, support and resourcing
- ~ Increasing the capacity, funding and infrastructure of the voluntary/community sector for the longer term

- ~ Consistent policy and funding environment, e.g. *"A funding environment that can provide meaningful support via long-term energy efficiency solutions and low cost energy, not just short-term patches."*
- ~ Accessible finance for enacting changes (e.g. retrofitting, electrification of heat)

### 5.3.1 *Arising comments, reflections and discussion*

There was an acknowledgement that a holistic and connected approach to engagement between the different actors was necessary. This reflected the comments of: *'there isn't an agreed route in which these actors can influence outcomes for customers, because anything that you try to do may or may not upset an energy supplier'*; and the *'need to explore how to get to a point where different actors have a role to play in communicating with customers'*.

Also noted was an ongoing difficulty of engaging residents about domestic energy changes. For example: *'I can't see the narrative changing to something that will engage consumers in a conversation about what a flexible energy system means, let alone what having a thermally efficient home means, and how on earth we're going to do it'*.

## 6. Reflections on methods and process

Whilst we were pleased with the discussion and feedback received, we recognised that there was a trade-off between the amount of in-depth discussion and the amount of material that we invited feedback on. We also recognised that the degree of verbal participation differed between the participants, as some were waiting for a more in-depth discussion at the end, and some had to leave due to prior commitments.

We would have appreciated more time to explore more general questions about scenarios. For example, one participant asked *'Shouldn't renewable energy capacity increase targets be based on what is needed to meet area's energy needs rather than [the] current baseline?'* It would also have been beneficial to explore how scenarios could be used by the participants to guide decisions, discussions and deliberation around NZ at a local level.

Some participants found the phrasing of the technology acceleration questions unclear, (e.g. when might X technology accelerate?), and would have preferred *'could/should/ ought'* instead of *'might'*.

The responses and feedback reflects the viewpoints of a range of actors who work with different sectors. We requested further feedback from those who were not able to attend, but did not receive any by the 4<sup>th</sup> April.