

# Cairngorms National Park Local Development Plan engagement: gamification approach

## Research Report



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## Acknowledgements

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**Cairngorms**  
National Park  
Pàirc Nàiseanta a'  
Mhonaidh Ruaidh



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## Executive summary

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The report presents the findings of a trial of a gamified approach to public engagement on the next Local Development Plan for the Cairngorms National Park. Effective community engagement is one of twenty projects within the Cairngorms 2030 programme<sup>1</sup>, funded by The National Lottery Heritage Fund, with thanks to National Lottery players.

Two sessions trialling the new approach were conducted in Aviemore. A total of 36 participants took part and seven games were played. The report collates and summarises the comments of residents on a series of goals taken from the objectives and policies within the Cairngorms National Park Partnership Plan 2022 – 2027 and a suite of policy themes taken from Scottish Government's National Planning Framework 4. The Cairngorms National Park's next Local Development Plan will provide locally derived policies that will sit alongside National Planning Framework 4 policies to help to meet the outcomes of the Cairngorms National Park Partnership Plan 2022 – 2027. The comments were captured during game play and were analysed using natural language processing.

The recruitment of participants was broadly successful and met the aims of the engagement as a range of people attended, representing most of the target audiences, with a diverse representation of age and gender. Most of the participants were of white ethnic background, which, while not successful in reaching people from ethnic minorities, including Gypsy / Travellers, is representative of the limited ethnic mix in the National Park.

The analysis of each group's prioritisation and selection of goals demonstrates that the distribution of highly valued goals across the participants was fairly uniform. In all seven games, the participants chose housing and the wellbeing economy goals as two of their four priority goals. None of the groups selected landscapes, mental and physical health, village and town centres or net zero as their goals.

Across the board, six policy cards were picked in at least five of the seven games:

- Support sustainable rural development in communities (National Planning Framework 4 Policy 29).
- Require high-quality, affordable, diverse and sustainable homes (National Planning Framework 4 Policy 16),
- Support community wealth-building (wellbeing economy) (National Planning Framework 4 Policy 25).
- Prioritise town and local centres (National Planning Framework 4 Policy 27).
- Require well-designed places (National Planning Framework 4 Policy 14).

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<sup>1</sup> Click to view more information on the Cairngorms 2030 project

- Support health and wellbeing uses (National Planning Framework 4 Policy 23a).

The sentiment analysis shows that players adopted a stable, collaborative tone consistently across games, focusing more on policy substance than on emotionally charged debate.

The topic modelling of general themes revealed the following topics:

- **Nature and ecology:** Dominated by terms like “ecology,” “trees,” “biodiversity,” and “woodland,” this topic captures participants’ detailed discussion of ecological restoration and landscape protection.
- **Homes and communities:** With “town centres,” “community ownership,” “development must,” and “community wealth” as its hallmarks, this theme reflects the intertwined priorities of affordable housing, vibrant local hubs, and community land trusts.
- **Transport and access:** Featuring “buses,” “public,” “prioritise,” and “drive,” alongside a dash of “biodiversity,” this topic corresponds to where groups wrestled with cycle routes versus bus services and the National Park Authority’s role in accessible networks.
- **Heritage and well-being:** Terms such as “cultural heritage,” “physical health,” and “high quality” reflect one game’s vigorous heritage-vs-ecology debate, and the broader push for health-enhancing amenities in every development.
- **Governance and services:** Anchored by “community ownership,” “national park,” “council,” and “school,” this topic highlights participants’ questions about policy levers, inter-agency roles and service provision—reflecting doubt about the Park Authority’s responsibilities versus those of local councils to effect change.

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# 1 // Introduction

In the Cairngorms National Park, arguably more than in any other part of Scotland, an almost entirely partnership approach to planning is adopted. The National Park Authority and the five local authorities that cover its area – Aberdeenshire Council, Angus Council, Moray Council, Perth and Kinross Council and The Highland Council – all play a key role in making the planning system work effectively.

The Park Authority sets the planning policy framework for the National Park. This is achieved through the Cairngorms National Park Partnership Plan<sup>2</sup> and the Local Development Plan. All planning applications in the National Park are determined in line with this policy framework.

Planning authorities have around five years from The Town and Country Planning (Development Planning) (Scotland) Regulations 2023 coming into force to replace their current Local Development Plan with a new style Local Development Plan. This means the Park Authority is expected to prepare and adopt a new Local Development Plan by around May 2028.

Alongside National Planning Framework 4<sup>3</sup>, the Local Development Plan will be the main document which will influence future built development in the National Park. It will address a wide range of policy issues, including housing, retail, economic development, transport, recreation, and built and natural heritage. The Local Development Plan will cover a 10-year period from around 2027 to 2037, as well as provide a general indication of the likely scale and location of development as far as 20 years beyond that.

The Cairngorms National Park Authority recognises that delivering a successful local development plan relies on successful engagement and consultation. One of the engagement objectives set out in the participation statement in its Local Development Scheme<sup>4</sup> is to “reach a diverse cross-section of stakeholders, exploring a variety of consultation methods that help reach audiences that are not typically engaged”.

In addition, part of the Cairngorms 2030 programme, funded by The National Lottery Heritage Fund, is effective community engagement. Trialling and evaluating new approaches to public consultations, such as gamification, to broaden participation, reduce barriers to engagement and gather new forms of feedback is a core part of this project.

This report provides a summary of insights that have been gathered through a series of game-facilitated workshops that have specifically been designed for prioritising policies as part of public consultations. This consultation is based on objectives and

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<sup>2</sup> Click here to view the Cairngorms National Park's Partnership Plan 2022 - 2027.

<sup>3</sup> Click here to view the National Planning Framework 4

<sup>4</sup> Click here to view the Cairngorms National Park's Development Plan Scheme, November 2024. The participation statement is on pages 12 and 13.

policies contained with the Cairngorms National Park Partnership Plan 2022 - 2027 and policies taken from National Planning Framework 4.

The rest of the report is structured as follows. Section 2 describes the methodology and provides an overview of the participants of these workshops. Section 3 provides a summary of views on the National Park Authority's goals expressed during the workshops. Section 4 provides a summary of views on the proposed policies expressed during the workshops. Section 5 provides sentiment analysis of the sessions. Section 6 highlights general themes that emerged during the sessions. Section 7 provides a summary of the report.

## 2 // Methodology

The selected approach is based on the gamification methodology for public consultations that was originally developed by the principal investigator (Spanellis et al., 2023). The game called Otter Power for facilitating face-to-face public consultations is designed to be played in a group of five participants (although it is flexible enough to be played by four or six players).

It aims to foster an effective and open discussion among all the participants by requiring them, through game play, to agree on a shortlist of goals from a larger selection and debate and select a set of policies by taking it in turns to chair the discussion (be 'the otter') and choose a policy to meet the group's chosen goals.

The game can be used to generate discussions across a wide range of policy areas. Prior to the Cairngorms National Park Authority's involvement, a version was created and used by the Lake District National Park to generate discussions around sustainable transportation options.

Table 1 describes the main features of the game structure.

**Table 1. Features of the Otter Power game**

<b>Feature type</b>	<b>Otter Power game</b>
Design goal	Goals and Policies prioritisation
Game approach	Role-play card game
Who can play?	<i>Game experience:</i> Low to none <i>Knowledge:</i> Experts and non-experts
No. of participants	4-6
No. of facilitators	One facilitator per game
Gameplay	Four phases of the game: <ul style="list-style-type: none"><li>• Agree on a set of goals collectively as a group.</li><li>• Select a set of five policies through five rounds where players take it in turns to be the decision-maker ('the otter') and choose a policy from those proposed by the other players.</li><li>• Score the policies to see the impact on all the goals, including the set selected by the group.</li><li>• Discuss the impact of the chosen policies on the selected goals and consider swapping the policies.</li></ul>
Game setting	In person workshop participation
Expected duration	80-100 min
Output	Opinions of participants on the value and relevance of all goals and policies presented by the game, including consistent themes and differences.

## Creation of Planning Power

The Planning Power game was created to enable discussion and receive open feedback on the importance of each of the Scottish Government's National Planning Framework 4 policies to those living and working in the National Park and their opinions on the relevance of these policies to the objectives of the Cairngorms National Park Partnership Plan 2022 - 2027.

The outputs from the discussion will be used as part of a wider suite of engagement events to inform the evidence base for the next Cairngorms National Park Local Development Plan.

The research team was supported by the Cairngorms National Park's forward planning team in the formulation of a bespoke version of the Otter Power game called Planning Power. The result was a set of 11 goal cards created from the Cairngorms National Park Partnership Plan 2022 – 2027's objectives and a set of 29 policy cards created from the National Planning Framework 4's 33 policies.

### Formulation of 11 goals

The Cairngorms National Park Partnership Plan 2022 – 2027 is the management plan for the National Park. Almost 1,500 people helped shape the plan in a public consultation phase. Following this, it was approved by Scottish Ministers. Local Development Plans for National Parks should be consistent with the National Park Partnership Plan. The Partnership Plan contains 34 objectives, arranged under three outcomes for Nature, People and Place.

The objectives most relevant to planning were selected and combined to create 11 distinct 'goals'. The language was simplified down to a goal title and one sentence description, and this was provided on each goal card, together with an icon representing the goal. While this did not allow the full meaning of the objectives to be understood by the players, the premise of each goal was clear, it enabled the game to function and it improved accessibility.

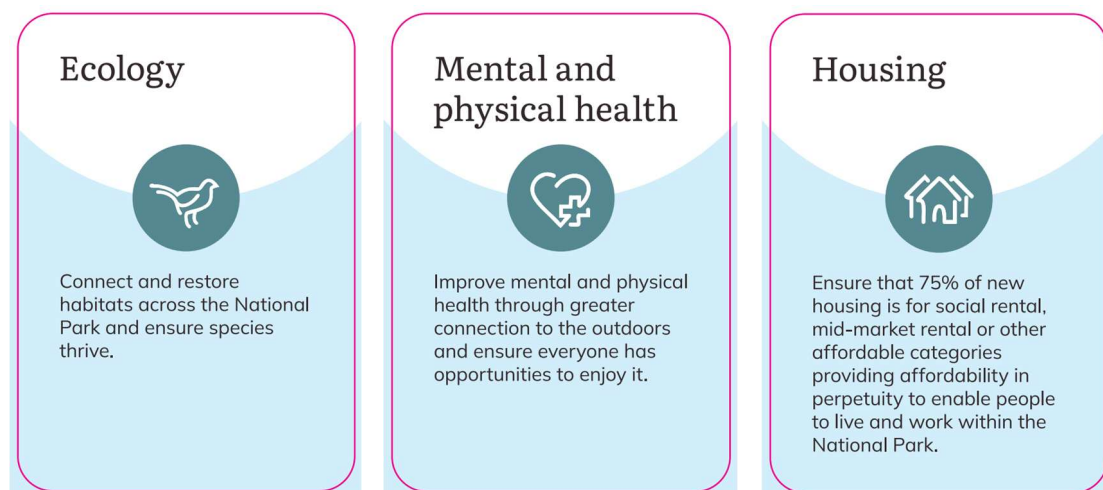


Figure 1. Examples of goal cards

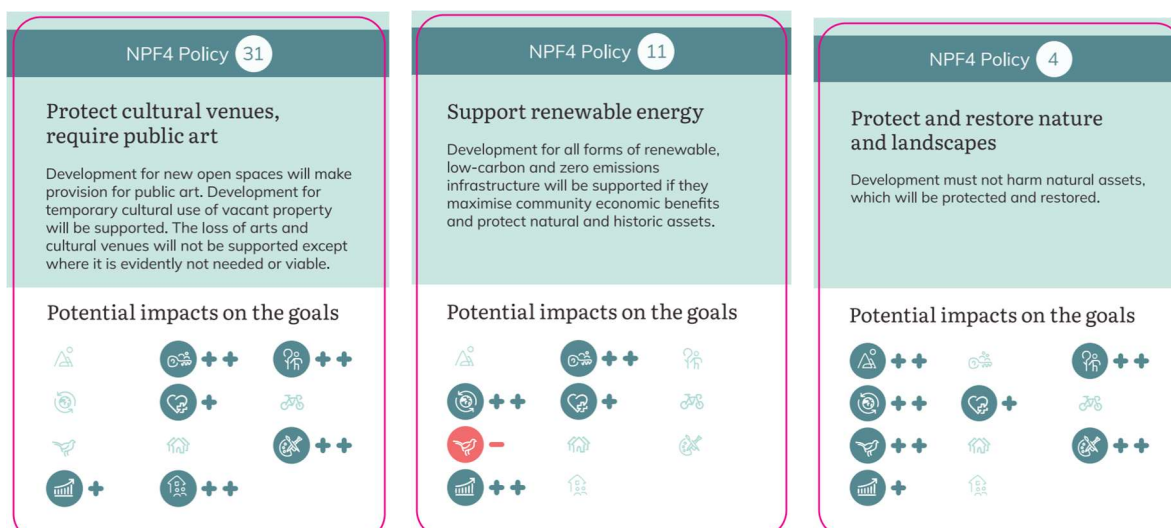
## Formulation of 29 policies

National Planning Framework 4 came into force in February 2023 and is the long-term National Spatial Strategy for Scotland. For the first time it contains a set of planning policies that form part of the statutory development plan. The new local development plan will consider whether policies local to the Cairngorms National Park are required to supplement these national policies. This game aims to collect the opinions of players on which of the national policies are important to them as residents of the National Park, thereby directly contributing to the process.

The 33 policies in National Planning Framework 4 were reduced to 29 through the deletion of policies not relevant to the National Park (such as coastal policy). One policy (23 – health and safety) was split into two separate policies. In the National Planning Framework 4, each policy contains at least one page of text. For the purpose of the game, this was reduced to a short policy title and one sentence description. The numbers on the cards correspond to the numbers in National Planning Framework 4.

'Potential impacts on the goals' are shown on each policy card. All 11 goals icons are listed together with 'plus' and 'minus' symbols indicating whether the impact is positive (+), strongly positive (++), negative (-), or insignificant (blank). These potential impacts were based on judgements made by a group of planning officers. They are open to interpretation and do not reflect the aim of National Planning Framework 4, which is that there should not be compromise or trade-offs between policy objectives and all policies can be applied positively to achieve sustainable development. Nevertheless, potential impact scores were applied to allow game play and enable the scoring round. Only five policies were given negative impacts and none were given strongly negative impacts.

Blank policy 'wild cards' were created to enable players to write their own policies with potential impacts if they did not feel the 29 policy cards covered the policy issues they believed were necessary or if they strongly disagreed with the impacts listed on a current policy card and players were encouraged to use these.



**Figure 2. Examples of policy cards**

The Otter Power game architecture envisages the identification of synergetic impacts when policy cards are implemented together. This was omitted from this version of the game due to the highly complex context and greater numbers of policy cards than in previous versions of the game.

Table 2 and Table 3 present a description and derivation of the goals and policies, respectively and Table 4 provides the potential impacts of the policies on the goals, identified on each policy card.

**Table 2. Description of goals and their derivation**

Goal title	Goal description	Cairngorms National Park Partnership Plan 2022-27 objective
Landscape	Protect the National Park's special Landscape qualities.	Special landscape qualities
Net zero	Ensure the National Park reaches net zero as soon as possible.	A1. Net zero
Ecology	Connect and restore habitats across the park and ensure species thrive.	A10. Ecological network A11. Ecological restoration A13. Species recovery
Wellbeing economy	Increase the proportion of young and working-age people in the National Park and develop an economy with a more equitable distribution of wealth, health and well-being.	B1. Working-age population B2. Well-being economy

<b>Goal title</b>	<b>Goal description</b>	<b>Cairngorms National Park Partnership Plan 2022-27 objective</b>
Community ownership	Increase the amount of property and land in community ownership or management, including most of the land allocated for development.	B5. Community assets and land C3. Housing and Community benefit
Mental and physical health	Improve mental and physical health through greater connection to the outdoors and ensure everyone has the opportunities to enjoy it.	B9. Mental and physical health B10. A park for all
Housing	Ensure that 75% of new housing is for social rented, mid-market rental or other affordable categories providing affordability in perpetuity to enable people to live and work within the National Park.	C1. Access to Housing C2. New Housing
Village and town centres	Ensure villages and town centres in the National Park are thriving places to live, shop and socialise.	C4. Village and town centres
Visitors	Stabilise visitor numbers in peak season and focus on high quality experiences in areas with sufficient infrastructure, capacity and ranger services in line with our sustainable tourism reputation.	C5. Visitors C6. A sustainable destination C9. High-quality visitor experience
Transport and access	Promote a shift towards sustainable and active travel and improve our path, cycle and outdoor access networks.	C7. Transport to and around the National Park C8. Accessible path and cycle network
Cultural heritage	Safeguard and promote the National Park's historic environment, history and culture and provide everyone with opportunities to experience and learn more.	C10. Cultural Heritage

**Table 3. Description of policies and their derivation**

<b>Policy title used on game cards</b>	<b>Policy description used on game cards</b>	<b>Policy title in National Planning Framework 4</b>	<b>National Planning Framework 4 policy number</b>
Minimise carbon emissions	Development must be located and designed to minimise emissions and adapt to climate change.	Climate mitigation and adaptation	2
Protect and strengthen biodiversity	Development must protect, conserve, restore and enhance biodiversity.	Biodiversity	3
Protect and restore nature and landscapes	Development must not harm natural assets which will be protected and restored.	Natural places	4
Protect carbon-rich soils and peatlands	Development on carbon-rich soils will be limited to renewable energy or be small-scale farm or rural community-related.	Soils	5
Protect and expand forests, woodland and trees	Development must not remove or fragment woodland which will be protected and expanded.	Forestry, woodland and trees	6
Protect and enhance historic assets	Development must not harm historic buildings and other assets which will be protected and enhanced.	Historic assets and places	7
Reuse brownfield land and limit greenfield development	Development that sustainably reuses brownfield (previously developed) land will be permitted. Building on greenfield land (not previously developed) will only be permitted where allocated.	Brownfield, vacant and derelict land and empty buildings	9

<b>Policy title used on game cards</b>	<b>Policy description used on game cards</b>	<b>Policy title in National Planning Framework 4</b>	<b>National Planning Framework 4 policy number</b>
Support renewable energy	Development for all forms of renewable, low-carbon and zero emissions infrastructure will be supported if they maximise community economic benefits and protect natural and historic assets.	Energy	11
Minimise construction waste	Development must minimise waste including by reusing buildings, materials and infrastructure and using low-carbon, reusable, new materials.	Zero waste	12
Prioritise walking, cycling and public transport	Development must provide walking and cycling routes, be accessible by public transport and not located where it would increase reliance on the private car.	Sustainable transport	13
Require well designed places	Development must be designed to improve the quality of the area by being healthy, pleasant, distinctive, connected, sustainable and adaptable.	Design, quality and place	14
Create connected and compact places (local living)	Development must successfully integrate with existing places and communities to improve access to sustainable transport, employment, shopping, health and social care, childcare and education, playgrounds, open space and recreation facilities, toilets and housing.	Local living and 20 minute neighbourhoods	15
Require high quality, affordable, diverse and sustainable homes	Development for new homes must be high quality, affordable and sustainable, providing choice across tenures and meeting the diverse housing needs of people and communities.	Quality homes	16

<b>Policy title used on game cards</b>	<b>Policy description used on game cards</b>	<b>Policy title in National Planning Framework 4</b>	<b>National Planning Framework 4 policy number</b>
Support new rural homes	Development will be supported in rural areas where it is small-scale and in keeping with the character of the area.	Rural homes	17
Require infrastructure with development	Development must provide or contribute to identified infrastructure need and impacts on infrastructure must be mitigated.	Infrastructure first	18
Prioritise natural and passive heating and cooling solutions	Development must prioritise natural and passive solutions such as siting, orientation and materials to adapt to more extreme temperatures.	Heat and cooling	19
Protect and enhance blue and green infrastructure	Development must not lead to a deficit in blue or green infrastructure (water and land-based open space) and it should be an integral part of new proposals.	Blue and green infrastructure	20
Protect outdoor play, recreation and sport facilities	Development must not result in the loss of outdoor sports or children's play facilities unless it is replaced with a better facility. New development should incorporate play provision.	Play, recreation and sport	21
Avoid flood risk areas	Development must be avoided in areas at flood risk and must not increase the risk of flooding. Development must connect to the public water mains or to a sustainable water source.	Flood risk and water management	22
Support health and wellbeing uses	Development that will have positive effects on health will be supported - for example places for exercise, community food growing or allotments, and health and social care facilities.	Health and safety	23a

<b>Policy title used on game cards</b>	<b>Policy description used on game cards</b>	<b>Policy title in National Planning Framework 4</b>	<b>National Planning Framework 4 policy number</b>
Protect people and places from harm	Development that would cause air quality or noise pollution or create safety hazards or risks will not be supported.	Health and safety	23b
Support digital infrastructure	Development that delivers new digital services, particularly in areas with no or low connectivity will be supported. The visual and amenity impacts must be minimised and the use of existing buildings or masts explored.	Digital infrastructure	24
Support community wealth building (wellbeing economy)	Development that contributes to community wealth building strategies such as enabling local jobs and community-led ownership of buildings as well as improving community resilience, reducing inequalities and increasing spending within communities will be supported.	Community wealth building	25
Support business uses in the right locations	Development for business and industry uses on allocated sites, home working, live-work units and microbusinesses will be supported.	Business and industry	26
Prioritise town and local centres	Development that creates vibrant town and local centres and attracts high levels of people, such as leisure, cultural, sports, education and health facilities will be supported in town and local centres, but not outwith them.	City, town, local and commercial centres	27
Support shops in rural areas	Development for shops that serve local rural needs ancillary to farms, craft and petrol/charge/service stations will be supported.	Retail	28

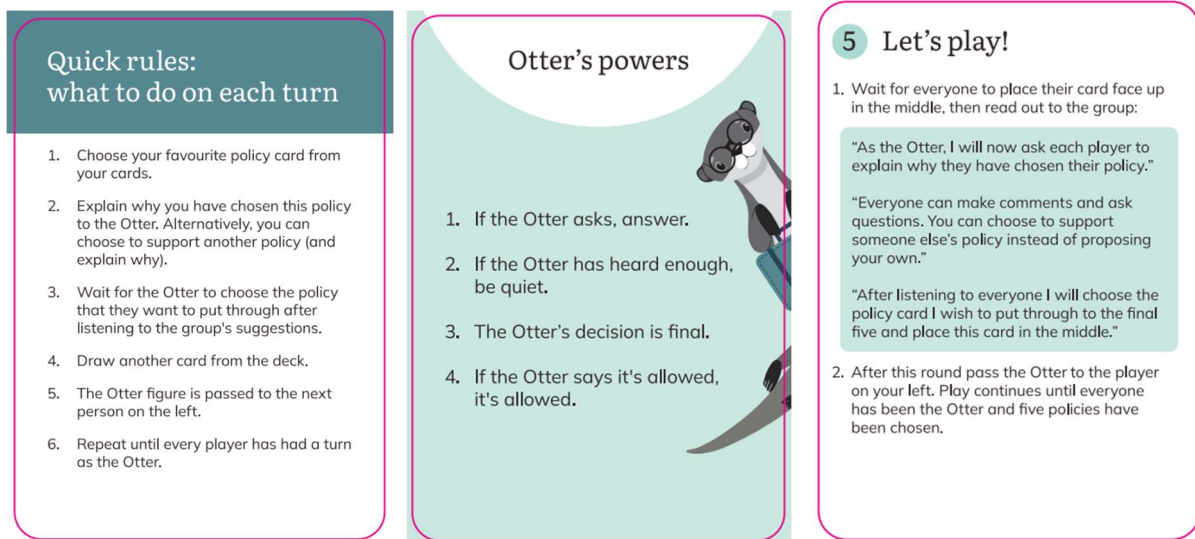
<b>Policy title used on game cards</b>	<b>Policy description used on game cards</b>	<b>Policy title in National Planning Framework 4</b>	<b>National Planning Framework 4 policy number</b>
Support sustainable rural development and communities	Development proposals that contribute to the viability, sustainability and diversity of rural communities and local rural economy will be supported.	Rural development	29
Support sustainable tourist facilities and accommodation	Development proposals for new or extended tourist facilities or accommodation will be supported in identified locations. Loss of tourist facilities will only be supported where it is no longer viable and there is no need for alternative tourist facilities in the area.	Tourism	30
Protect cultural venues, require public art	Development for new open spaces will make provision for public art. Development for temporary cultural use of vacant property will be supported. The loss of arts and cultural venues will not be supported except where it is evidently not needed or viable.	Culture and creativity	31

**Table 4. Potential impacts on the goals identified on each policy card**

National Planning Framework 4 policy	Policy title used on game cards	Goal titles used on game cards										
		Landscape	Net zero	Ecology	Wellbeing economy	Community ownership	Mental and physical	Housing	Village and town centres	Visitors	Transport and access	Cultural heritage
2	Minimise carbon emissions		**				*		**	*	**	*
3	Protect and strengthen biodiversity	**	*	**	*		*			**		
4	Protect and restore nature and landscapes	**	**	**	*		*			**		**
5	Protect carbon-rich soils and peatlands	**	**	**								
6	Protect and expand forests, woodland and trees	**	**	**			*			**		
7	Protect and enhance historic assets	**	*		*	*	*			**		**
9	Reuse brownfield land and limit greenfield development	*	**	*		*			**	*	**	
11	Support renewable energy		**	*	**	**	*					
12	Minimise construction waste		**	*								
13	Prioritise walking, cycling and public transport		**		**		**		**	**	**	*
14	Require well designed places	*	*	**	**		**	*	**	**	**	**
15	Create connected and compact places (local living)	*	**	*	*		**	**	**	*	**	*
16	Require high quality, affordable, diverse and sustainable homes		*		**	*	*	**	*		*	
17	Support new rural homes				**	*	*	**			*	
18	Require infrastructure with development		*	*	**		*			*	**	
19	Prioritise natural and passive heating and cooling solutions		**				*			*		*

	Policy title used on game cards	Goal titles used on game cards										
		Landscape	Net zero	Ecology	Wellbeing economy	Community ownership	Mental and physical	Housing	Village and town centres	Visitors	Transport and access	Cultural heritage
20	Protect and enhance blue and green infrastructure	**	**	**	*	*	**		*	**	*	*
21	Protect outdoor play, recreation and sport facilities				**	*	**		*	*	*	*
22	Avoid flood risk areas						*			*		
23a	Support health and wellbeing uses				**	**	**		*	*	**	
23b	Protect people and places from harm				*		**		*			
24	Support digital infrastructure	*	*	*	**	*	*	*	**	**	*	
25	Support community wealth building (wellbeing economy)				**	**	*	**	*	*		
26	Support business uses in the right locations	*	*	*	**		*		**	**	*	
27	Prioritise town and local centres	*	**	*	**	*	*	*	**	*	*	*
28	Support shops in rural areas		*		**		*		*	*	*	*
29	Support sustainable rural development and communities		*		**	*	*	*	*	*	**	*
30	Support sustainable tourist facilities and accommodation		*		**		*		*	**	**	*
31	Protect cultural venues, require public art				*	**	*		**	**		**

In addition to goal and policy cards, 'players instructions', 'quick rules' and 'otter's powers' cards were created to explain the game for players. These updated the Otter Power game infrastructure to enable the specifics of the Planning Power game to be understood and learned by the players as part of the game.



**Figure 3. Examples of quick rules, otter's powers and instruction cards**

## Analysis

The analysis was conducted using natural language processing that enables topic modelling and sentiment analysis of large amounts of text. This approach is based on the research of the co-investigator, who has demonstrated how natural language processing can be used to analyse corporate sustainability policy and support the interpretation of the results. Natural language processing allows a user to distil and communicate large amounts of qualitative data, thereby improving their ability to deal with large amounts of qualitative data and generate insights in a short period of time (Chalmers et al., 2023).

### Identifying goal selections from transcripts

To determine how often each of the 11 National Park goals was *explicitly selected* across all the game transcripts, we applied a structured semantic search approach similar to our earlier policy analysis. This involved the following steps:

#### 1. Goal reference set creation

Each of the 11 goals was defined using its official title, associated National Planning Framework 4 framework references, and descriptive text. We also created a list of common synonyms and thematic keywords associated with each goal (for example, “*carbon emissions*” for **Net zero**, “*affordable housing*” for **Housing**).

#### 2. Transcript parsing

All game transcripts were parsed paragraph by paragraph using the python-docx library, capturing each participant utterance individually.

### 3. Selection cue identification

Paragraphs were flagged for analysis if they contained *explicit selection signals*, such as:

“we chose...”, “we selected...”, “our pick was...”, “we went with...”, “we agreed on...”, “this was our goal...”

### 4. Semantic matching

Flagged paragraphs were then compared against each of the 11 goals using:

- Keyword-based matching (goal aliases, related terms)
- Contextual checks for alignment between the selection statement and the intended meaning of the goal.

A match was counted only when a selection phrase clearly referred to a goal or its synonyms, ensuring the analysis prioritized **explicit selections** rather than vague mentions.

### 1. Validation and filtering

For ambiguous cases, we manually verified quotes to ensure that selection intent was genuinely present. We excluded paragraphs that mentioned goals but did not indicate they were chosen by the players.

### 2. Aggregation

The resulting matches were tallied into a matrix: **goals (rows) × games (columns)**, with a final column summing the total selections per goal. We also extracted and displayed example quotes from each game that supported these selections.

## Policy selection analysis

### Input data

- All transcripts .docx files were read and parsed.
- Reference list
- Each of the 29 National Planning Framework 4 policies (titles and simplified descriptions) was stored and matched using semantic similarity techniques.

### Selection detection logic

Rather than just looking for mentions, we specifically searched for selection-related patterns, including phrases like:

- “I choose...”
- “Let’s go with...”
- “We picked...”
- “We’ve decided on...”
- “Our policy is...”
- “I would vote for...”

- “I select...”
- “This is our option...”

These phrases are typically immediately followed by or clearly linked to a specific policy or its paraphrased form.

We analysed the game transcripts using a semantic search approach. Each of the 29 National Planning Framework 4 policies—defined by their title and simplified description—was compared against speaker utterances using term frequency – inverse document frequency (TF-IDF) vectorization and cosine similarity. Mentions above a set threshold were counted to determine how frequently each policy was proposed or discussed across the sessions.

### **Semantic matching**

The candidate sentences were then matched semantically (not just by keywords) to the 29 policies using vector similarity (sentence embeddings + cosine similarity).

### **Aggregation**

For each game and policy, a “1” was assigned if a valid selection was detected. These were aggregated into a summary table of policy selections by game.

### **Sample selection quotes extracted**

Here are five real examples (automatically extracted) where a policy was likely selected rather than just mentioned:

#### 1. Game 3

“I think we should go with minimising carbon emissions—it’s the one that makes most sense given our scenario.”

→ Matched policy: Minimise carbon emissions

#### 2. Game 5

“Our final policy is definitely about avoiding flood risk. That was a concern for all of us.”

→ Matched policy: Avoid flood risk areas

#### 3. Game 1

“Let’s choose the one about natural heating and cooling. That’s innovative and helps address climate.”

→ Matched policy: Prioritise natural and passive heating and cooling solutions

#### 4. Game 5

“I support construction waste reduction. It’s practical and actionable.”

→ Matched policy: Minimise construction waste

5. Game 2

“I vote for the local living policy—it really supports compact, sustainable growth.”

→ Matched policy: Create connected and compact places (local living)

## Recruitment process and profiles

The recruitment process was carried out by the Cairngorms National Park Authority. The National Park's Development Plan Scheme contains a Participation Statement identifying target audiences for engaging with the Local Development Plan. The recruitment focused on reaching members of less heard groups who may not be engaged in other strands of the Local Development Plan engagement. The aim was to bring together a mix of people who have and have not engaged with the Park Authority in the past. The priority stakeholders identified were:

- People under 40
- Working parents
- People with disabilities, including long term health conditions
- LGBTQ+ people
- Gypsy / Travellers
- People living in income poverty
- People from minority ethnic communities
- Young people (16-25)
- Local businesses
- Landowners and land managers

The main potential barriers to participation for these groups were considered, and included:

- Timings of events
- Lack of time / need for compensation for time
- Perceived lack of relevance
- Childcare / care for dependants
- Physical accessibility of events
- Transport
- Lack of confidence (both self-confidence and confidence in official institutions)
- Fear of stigma / being treated differently
- Caution around tokenism

The aim was to recruit 50 participants from across 10 priority groups. In total, 42 people applied to attend (and an additional two people were referred), with eight dropping out in the lead up to the event, and 36 attending on the day.

To increase inclusivity and in recognition of the value of participants' lived experiences, £80 remuneration was offered in return for their time (a two-hour long

workshop with minimal preparation required in advance). This rate was based on the suggested rate in the Scottish Government's Guidance: paying participant expenses and compensating for time<sup>5</sup>. In addition, travel expenses were reimbursed and £30 towards costs of caring for dependants was offered to all participants. This approach was used as a test during the development of the Cairngorm National Park Authority remuneration policy.

The recruitment process involved the following steps:

1. Identifying colleagues with knowledge of or relationships with priority groups.
2. Identifying third sector or public sector organisations within Badenoch and Strathspey that represent or support members of priority groups. The Badenoch and Strathspey Community Planning Partnership membership was taken as a starting point.
3. Meeting with a small number of colleagues and local organisations to learn more about priority groups that have been especially underrepresented, including asking for advice on how to mitigate barriers to their engagement and how to effectively reach them. The organisation, Article12, which supports Gypsy / Travellers in Scotland, helped to share information with the people they work with.
4. Incorporating this advice into the event planning and recruitment planning where possible.
5. Creating a recruitment pack with information about the game workshops, accessibility and a 'call to action' to apply to participate.
6. Developing an application form to collect relevant demographic data and to ensure that people from a range of backgrounds had the opportunity to participate if more than 50 people applied in total.
7. Emailing a wide range of organisations and relevant colleagues to ask for support in sharing the information pack and application form with potential participants.
8. Time was built in to extending the deadline for applications and targeting specific groups who had not applied, for instance people living in specific settlements, young people and parents.
9. Sending participants further details about the workshops after they were selected to take part, including the researchers' participant information sheet and consent form so these could be read in advance. Attendees were invited to get in touch to make the team aware of any accessibility needs. They were also asked to email if they could no longer attend.

The demographic information collected in the application forms can be summarised as follows in relation to the target groups:

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<sup>5</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2024/02/guidance-paying-participant-expenses-compensating-time/documents/guidance-paying-participant-expenses-compensating-time/guidance-paying-participant-expenses-compensating-time/govscot%3Adocument/guidance-paying-participant-expenses-compensating-time.pdf>

- **People under 40:** people from a range of age groups applied to participate, with similar numbers of applicants in several age brackets 25-34 (9); 35-44 (10); 45-54 (9) and 55-64 (8).
- **Young people (16-25):** two people in this age bracket attended.
- **Working parents:** 13 applicants stated that they had dependants, but only one claimed for childcare costs. One person identified as a stay-at-home parent.
- **People with disabilities, including long term health conditions:** Five applicants had health conditions that created substantial barriers in their day-to-day activities; 12 had some / small barriers; 25 had none. One preferred not to say. In addition, one attendee was registered blind and attended with a person to support them.
- **LGBTQ+ people:** Six members of this community applied, one person preferred not to say and one person identified with none of the options (bisexual, gay, heterosexual) but did not give further information.
- **Gypsy / Travellers:** none of the applicants identified as part of this group.
- **People living in income poverty:** The most common response was 'Get by alright' (18); with the next most common being 'Manage very well' (11); followed by 'Manage quite well' (7). One applicant said they 'Don't manage very well' and two 'have some financial difficulties'. Three preferred not to say.
  - The question about employment status may provide some additional context about this group. The most common response was 'working full time' (18), with 'self-employed' the next most common (10), followed by working part-time (5), volunteer (5) and retired (5), carer (3), student (4), unemployed (3), stay at home parent (1) and prefer not to say (1) were also selected.
- **People from minority ethnic communities:** One applicant identified as a member of a mixed or multiple ethnic groups but did not provide further information. The other applicants were white, of which 26 identified as Scottish, 14 as Other British; 1 as Polish and 1 as Canadian.
- **People from across Badenoch and Strathspey:** Every settlement was represented except Dalwhinnie. Almost half came from Aviemore (19), with the next most common being Newtonmore (5) and Grantown-on-Spey (5).
- **Local businesses:** 10 applicants own or run a local business; one preferred not to say.
- **Landowners and land managers:** Eight applicants own or manage land in the National Park.

An analysis of the attendees indicates the following conclusions:

- The recruitment was broadly successful and met the aims of the engagement as a range of people attended, representing most of the target audiences.

- Cairngorms National Park officers attending the event confirmed that most of the participants were not known to them, suggesting that the majority had not engaged with the National Park in the past.
- Attendees were highly engaged during the workshops, and 10 signed up to the mailing list to be kept informed of future engagement opportunities.
- The recruitment process was not successful in reaching people from ethnic minority backgrounds, including Gypsy / Travellers.
- Few people living in income poverty participated, though the financial and employment statuses of attendees was likely more varied than is typical in previous engagement events.
- The 16-25 age bracket was less well represented than aimed for, though the overall age profile of attendees was younger than most previous engagement events (half of the attendees were under 44).
- Two attendees, who were visually impaired, required some extra support on the day.
- Valuable feedback was received from participants and organisations as to how engagement can be made even more accessible to underrepresented groups in the future.

Overall, seven games were played (see Table 5) with a total of 36 participants attending the two sessions.

**Table 5. List of games**

<b>Games</b>	<b>Workshop code</b>	<b>Number of participants</b>
Game 1	W4-T1	6
Game 2	W4-T2	5
Game 3	W4-T3	5
Game 4	W5-T1	5
Game 5	W5-T2	5
Game 6	W5-T3	5
Game 7	W5-T4	5



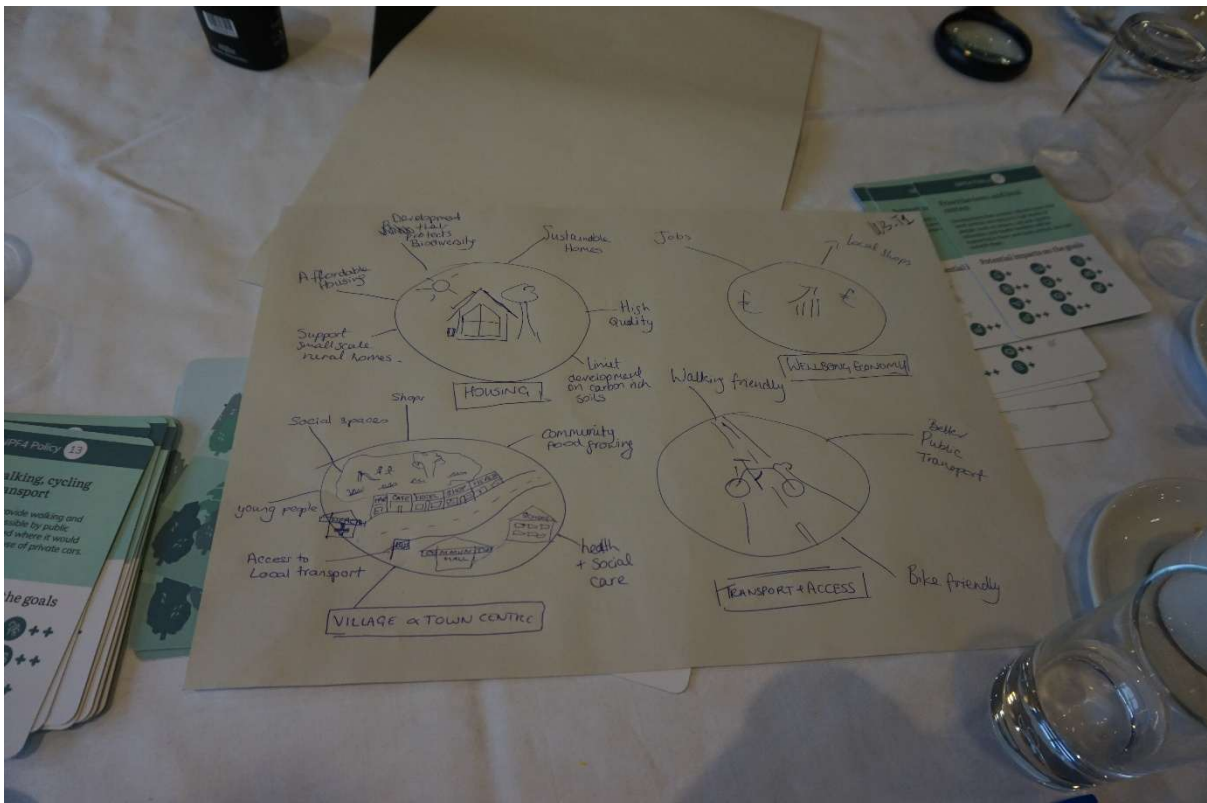


Figure 4. Photographs from the Aviemore event

### 3 // Views on goals

The first task in the game is for the players to propose four goals each and then together select and agree on which four of the proposed goals to prioritise. Table 6, below, provides an overview of the different goals proposed and selected in each game. Across the seven games, the goals chosen reveal a clear hierarchy of priorities.

The most frequently selected goals were **Housing** and **Wellbeing economy**, which were chosen as two of the four goals to prioritise in all seven workshops.

**Community ownership** was chosen by five of the seven games; **Village and town centres** and **Transport and access** by three of the games; **Landscape** by two games; and **Cultural heritage** by one game.

Four goals, **Net zero**, **Ecology**, **Mental and physical health**, and **Visitors** were not chosen as one of the four goals by any of the tables. This is despite **Ecology** and **Mental and physical health** being proposed in six of the games.

**Table 6. All goals proposed and subsequently chosen in each game by players**

Goals	Game 1	Game 2	Game 3	Game 4	Game 5	Game 6	Game 7	Total number of times proposed	Total number of times chosen
Landscape	x		x	x	x	x	x	6	2
Net zero		x	x				x	3	0
Ecology	x	x	x	x		x	x	6	0
Wellbeing economy	x	x	x	x	x	x	x	7	7
Community ownership	x	x	x		x	x	x	6	5
Mental and physical health		x	x	x	x	x	x	6	0
Housing	x	x	x	x	x	x	x	7	7
Village and town centres	x	x	x	x	x	x	x	7	3
Visitors			x		x			2	0
Transport and access	x	x	x			x	x	5	3
Cultural heritage	x	x	x	x		x	x	6	1

### How the goals were discussed

Below is a summary of how players **talked** through each of the goals across all seven games, illustrating both the shared themes and game-specific nuances that

emerged through the gamified process. Wherever helpful, we've retained participants' own words, with citations to the transcript excerpts.

### Goal 1: Landscape

Across all seven games, **Goal 1: Landscape** consistently emerged as a priority, although players interpreted and weighed it differently depending on trade-offs with housing, infrastructure, and economic development.

Participants across all games recognised the intrinsic value of the landscape, often referring to its beauty, tranquillity, heritage, and importance to tourism. Many groups cited the National Park's status as a reason to exercise particular care when considering development, arguing that protecting landscape qualities should be a "baseline" or "non-negotiable" condition.

In several games, the landscape goal was selected early as a guiding principle. Players viewed it as a long-term public good—something that, once degraded, would be difficult to recover.

In some groups, however, tension arose between preserving landscapes and delivering housing or renewables. For example, when wind farms or affordable housing were considered, some players argued that a limited visual impact could be justified if the development met urgent local needs. Others rejected such trade-offs, especially in visually prominent areas or near iconic views.

Players frequently discussed siting and design as tools for minimising landscape impact. Suggestions included using natural materials, limiting height, clustering development near existing settlements, and avoiding ridgelines or open moorland.

Transport infrastructure and its impact on visual quality featured in a few games. Some players were concerned about road expansions or car parks detracting from natural views, while others supported improvements to enable access, provided they were sensitively designed.

Goal 1 consistently received strong support, often framed as the “core purpose” of having a National Park. Players advocated for a high threshold before permitting development that could alter landscape character. However, when directly confronted with choices between landscape and social goals like housing, some players were open to compromises—particularly if developments were small-scale, community-led, or hidden from key viewpoints. Overall, the discussion revealed a shared desire to uphold the National Park's special qualities while seeking intelligent, place-sensitive solutions to growth.

### Goal 2: Net zero

Across all seven games, **Goal 2: Ensure the National Park reaches Net zero as soon as possible** was widely supported in principle but generated debate around feasibility, trade-offs, and priorities.

Participants consistently expressed support for achieving net zero, frequently describing it as a necessary or inevitable goal. Several groups used it as a benchmark to evaluate policy choices, such as promoting renewables, retrofitting housing, or reducing car dependence. It often served as a guiding goal, particularly when players had a sustainability-oriented mindset.

While agreement on the goal was strong, there was often uncertainty or disagreement about the best way to achieve it. Groups discussed a variety of tools: renewable energy development (especially wind and solar), restrictions on fossil fuel infrastructure, and green building standards. However, when these tools conflicted with other goals—such as landscape protection or affordable housing—players often struggled with prioritisation.

Some players were wary of tokenistic gestures, calling for “genuine” pathways to net zero rather than “greenwashing.” Others were cautious about endorsing large-scale infrastructure (for example wind farms) without community benefit or visual sensitivity.

Reducing emissions from transport and housing was frequently discussed. Groups supported prioritising compact, low-carbon settlements and high energy-efficiency standards for new builds. However, players also recognised the challenge of rural car dependency and the need for practical alternatives like electric vehicles or improved public transport.

In several games, players noted a tension between net zero measures and other valued goals—particularly landscape protection and cultural heritage. Wind farms and solar fields often triggered these debates. Some groups were comfortable with landscape trade-offs if emissions reduction was significant; others insisted on strict siting conditions or local benefit-sharing.

Net zero was viewed as a crucial long-term goal and proposed by players in three of the groups. Yet the path to achieving it revealed competing values. Most groups sought to balance climate action with the National Park’s identity, suggesting support for integrated, context-sensitive strategies: small-scale renewables, retrofits, reduced car use, and green standards in housing. The goal’s ambition was embraced—but conditional on how fairly and visibly it could be implemented.

### Goal 3: Ecology

**Goal 3: Ecology** (connect and restore habitats across the National Park and ensure species thrive) was proposed by players in six of the games, particularly by players concerned with long-term environmental sustainability. However, its interpretation varied, and trade-offs emerged when other pressing needs—like housing or infrastructure—competed for attention.

Players across games saw this goal as central to preserving the National Park’s identity and ecological function. “Biodiversity” and “habitats” were commonly cited as

non-negotiables. Participants supported policies that restricted fragmentation of ecosystems, promoted woodland expansion, protected peatlands, and restored rivers. Several groups mentioned the need to create ecological corridors and reverse habitat degradation.

Ecological restoration was often linked with other goals: net zero (for example, carbon sinks via peatlands), health and wellbeing (for example, access to nature), and water management (for example, natural flood mitigation). Participants often identified opportunities for “win-win” scenarios where ecological outcomes improved resilience or quality of life.

However, when habitat protection constrained development—especially housing or renewable energy infrastructure—players sometimes deprioritised this goal. For example, when scenarios discussed involved siting wind farms or expanding settlements near sensitive areas, some participants expressed reluctance due to potential habitat damage. Others argued for “smart siting” and strict mitigation rather than avoidance.

While many supported the idea of thriving species, the specifics of species recovery (for example which species, how recovery is measured) were rarely discussed. A few groups mentioned rewilding or species corridors, but this element was generally abstract unless tied to visible outcomes like restoring woodlands or river habitats.

Ecological restoration and habitat connection were frequently seen as essential to the National Park’s purpose. This goal held strong symbolic value, especially for players who prioritised environmental integrity. Yet its value was challenged by perceived trade-offs with housing, tourism, and energy infrastructure. The most consistent support was for integrated ecological networks—corridors, woodland and peatland expansion, and nature-based flood mitigation—when tied to clear, multi-benefit outcomes.

#### Goal 4: Wellbeing economy

Participants often linked **Goal 4: Wellbeing economy** to broader concerns about the long-term viability of rural communities and the attractiveness of the National Park to younger generations.

This goal, which aims to increase the proportion of young and working-age people in the National Park, as well as develop a more equitable economy, was frequently framed as essential to reversing demographic decline. Players repeatedly cited the outmigration of youth and lack of employment as a serious issue. Affordable housing, job creation, and digital infrastructure were common themes associated with attracting or retaining younger residents. Several groups viewed this goal as fundamental—without people of working age, other goals (like restoring **Ecology** or thriving **Village and town centres**) become harder to achieve.

Participants advocated for small-scale, locally rooted economic development that aligns with the National Park’s character. Proposals included encouraging microbusinesses, crafts, sustainable farming, and green energy enterprises. There was support for “live-work” setups and repurposing buildings to support local entrepreneurship. In some cases, this goal was also linked to community wealth building, fair wages, and social infrastructure (for example, childcare, healthcare).

A key theme was the difficulty working-aged people face accessing affordable and appropriate housing. Holiday lets and second homes were often seen as exacerbating the issue. Some groups argued that unless housing policies are reformed, efforts to attract young people would falter. The need for diverse, sustainable housing (Goal 7) was often framed as inseparable from this goal.

Some groups discussed the broader meaning of a Wellbeing economy beyond job counts and Gross Domestic Product. They discussed the importance of accessible services, community cohesion, work-life balance, and opportunities for cultural and recreational engagement. Others noted that simply relocating younger people without supporting social infrastructure would be ineffective.

Goal 4 was one of the most consistently supported and pragmatically framed goals across the games. Participants saw it as key to the National Park’s future viability. They emphasised housing affordability, job opportunities, and supportive infrastructure (like childcare and digital access) as essential tools for achieving it. While economic growth was discussed, the dominant framing focused on resilience, equity, and sustaining vibrant, intergenerational communities.

### Goal 5: Community ownership

**Goal 5: Community ownership** was a recurring theme, often discussed in connection with affordability, local empowerment, and long-term sustainability. The goal to increase the amount of land and property in community ownership—especially land allocated for development—was seen by many players as a practical and moral priority.

Players frequently linked community ownership with the desire to build more affordable, long-term housing solutions. There was a shared sentiment that when land is owned and managed locally, developments are more likely to align with community needs rather than external profit motives. This was often discussed as a counterbalance to speculative development or second-home ownership, both seen as barriers to thriving local communities.

Participants described community ownership as a way to enhance self-determination and place-based resilience. Several groups raised concerns about lack of trust in centralised institutions or external developers. Community-led models—like cooperatives, trusts, or local development corporations—were proposed as mechanisms to ensure transparency and shared benefit from land and assets.

Many players expressed support for this goal on fairness grounds, emphasising that local people should benefit from development. In some groups, this goal was considered central to addressing inequalities in wealth, land access, and influence. The idea of giving communities a “stake” in their future through ownership was seen to retain young people, increase accountability, and reduce dependency on government support.

While enthusiasm for community ownership was high, players also flagged barriers: legal complexity, funding, and limited local capacity. Some participants proposed stronger policy mechanisms or partnerships to enable communities to purchase or manage land. Others noted the need for ongoing support, not just one-off opportunities.

Goal 5 resonated deeply across the games as both a symbolic and strategic priority. It was seen as key to delivering affordable housing, inclusive development, and long-term community resilience. Participants framed community ownership not just as a technical model, but as a transformative approach to shaping the future of the National Park on local terms.

### Goal 6: Mental and physical health

**Goal 6: Mental and physical health** was widely supported and often considered to be a primary outcome of good planning, community design, and equitable access to nature. Discussions reflected a strong consensus that the National Park plays a vital role in promoting wellbeing and must be accessible to all.

Many participants saw mental and physical health as inseparable from time spent outdoors. Groups stressed the importance of encouraging access to green and blue spaces, trails, and natural features for both residents and visitors. There was recurring emphasis on nature as a “healing” or “restorative” environment, particularly in a post-COVID context. Participants often proposed green infrastructure, better signage, or improved mobility routes to support outdoor access.

Several groups explicitly discussed mental health—not just physical exercise—as a planning concern. They highlighted the rise in anxiety, stress, and isolation, especially among young people and the elderly. The presence of quiet, safe, and beautiful spaces was linked with reduced stress levels. Some groups discussed the role of allotments, nature walks, or public art as low-cost interventions that improve mental wellbeing.

A major thread running across the game discussions was the need to ensure everyone can benefit from the National Park—not just the physically fit or well-off. Many players identified that some groups (for example, those without cars, disabled people, or low-income residents) face barriers to access. As a result, suggestions included improved public transport, all-abilities trail design, and outreach or education programs.

Health was frequently linked to other goals and policies. It was seen as both an outcome and enabler of sustainability, equity, and community vitality. For example, participants argued that developments supporting local food, walkability, or active travel also promote health. Health impact was often included when participants evaluated policies or proposed trade-offs.

Players consistently framed health as a holistic goal—physical, mental, and social—that should shape land use and planning in the National Park. There was strong support for embedding access to nature, inclusive design, and outdoor experiences into development decisions. Health was not treated as a niche concern, but a key measure of success for the National Park's future.

### Goal 7: Housing

**Goal 7: Housing**, which aims to ensure that 75% of new housing is affordable and enables people to live and work in the National Park, was discussed extensively, with a consensus on its critical importance but varied interpretations of how to achieve it.

Several groups consistently identified affordable housing as essential for community sustainability, especially to retain or attract young and working-age populations. Many players emphasised the housing crisis in rural and tourist-heavy areas, where high property prices and second-home ownership have led to depopulation and a lack of local services. Social rented housing was widely supported, often tied to reducing inequalities and enabling community cohesion.

There was frequent debate over how to ensure affordability "in perpetuity." Some teams discussed mechanisms like community land trusts and tied housing (for example, linked to employment or income criteria), while others questioned the enforceability or realism of the 75% target. Some players advocated for more flexibility, fearing that an overly rigid quota might discourage developers or delay much-needed housing delivery.

Tensions arose between this goal and environmental objectives. While many participants supported compact and low-impact development, others worried that prioritising affordable housing could lead to greenfield development, which was seen as inconsistent with conservation goals. A few games noted a preference for reusing brownfield land or building within existing settlements to minimise environmental impact.

The relationship between housing and other community goals (like a Wellbeing economy) was often highlighted. Players frequently linked affordable homes to improving mental health, reducing commuting burdens, and enhancing resilience. In multiple games, participants also expressed strong interest in tying housing to local jobs, particularly through live-work models or housing reserved for key workers.

In summary, Goal 7 was consistently seen as vital, but implementation concerns focused on ensuring long-term affordability, balancing with environmental priorities, and designing appropriate delivery mechanisms that would genuinely benefit residents rather than external investors or second-home buyers.

### Goal 8: Village and town centres

Across all seven games, participants frequently discussed **Goal 8**: ensuring that villages and town centres in the National Park are thriving places to live, shop, and socialise. There was consistent emphasis on supporting existing local businesses, enhancing public spaces, and increasing footfall through infrastructure improvements and mixed-use development.

In most games, players recognised the importance of revitalising rural and village centres to combat economic decline and depopulation. Common suggestions included converting vacant or underused properties into community spaces, cafes, or co-working hubs. Several players advocated for prioritising housing near town centres to promote walkability and support local shops.

Transport connectivity was a recurring issue. Participants argued that improved public transport links would help attract more visitors and residents to town centres, reducing car dependency while boosting local economies. Safe cycling routes and better pedestrian infrastructure were often linked to making town centres more accessible and vibrant.

In terms of design, participants frequently aligned this goal with Policy 11 (Well-Designed Places), emphasising aesthetics, heritage, and place identity. In some games, players proposed limiting out-of-town development to maintain the vitality of existing centres and protect the character of smaller towns.

There was also discussion about integrating services into town centres, including health, leisure, and education, to ensure they serve as multifunctional community hubs. This was particularly noted in the context of resilience and wellbeing. Additionally, some players suggested incentivising businesses that provide local employment or essential services.

Concerns were occasionally raised about balancing commercial viability with preserving the unique character of small towns. Some participants warned against over-commercialisation or generic high street offerings that could undermine local identity.

Overall, Goal 8 was widely seen as achievable if integrated with **Housing, Transport and access**, and sustainability goals, and if policy and investment supported local, small-scale, and community-led regeneration.

## Goal 9: Visitors

Discussions around **Goal 9: Visitors** reveal strong interest in managing tourism sustainably while ensuring high-quality experiences and minimising strain on local communities and ecosystems.

Players widely agreed on the need to stabilise visitor numbers during peak seasons, especially to reduce environmental degradation, infrastructure overload, and traffic congestion. There was consistent concern that current visitor levels, particularly in summer, were unsustainable. Several groups proposed redirecting tourism flows away from overburdened hotspots toward underused areas to better distribute economic benefits and environmental impact.

Many players emphasised supporting infrastructure and services, especially toilets, ranger presence, car parks, and public transport, to handle existing visitor volumes more effectively. Some proposed development conditions that would require tourism-related projects to demonstrate they could handle visitor pressure responsibly.

Another recurring theme was a desire to prioritise quality over quantity. Players discussed the value of attracting visitors who are seeking slower, more immersive experiences aligned with the National Park's natural and cultural identity, rather than simply increasing headcounts. There was strong support for ecotourism, small-scale accommodations, and projects that integrated with local communities and nature.

Groups also explored visitor education and stewardship, with participants suggesting investment in interpretation centres and ranger-led initiatives to enhance visitor awareness and reduce damaging behaviours. One group discussed a visitor levy to fund such efforts and compensate communities for tourism's impacts.

A few groups acknowledged the economic value of tourism and sought to balance local livelihoods with sustainability. They debated whether new accommodations should be supported, concluding that such projects should only proceed where infrastructure and transport links are robust.

Overall, discussions showed alignment with the goal's core principles: limiting peak numbers, enhancing experiences, and focusing on infrastructure and capacity. Players viewed tourism not as something to expand uncritically, but to manage wisely to uphold the Park's environmental and social values.

## Goal 10: Transport and access

Discussions of **Goal 10: Transport and Access** emphasised the challenges and opportunities associated with promoting sustainable and active travel in the National Park.

Players frequently supported the expansion and improvement of public transportation, path, and cycling networks. Several participants acknowledged that existing transport options were inadequate, especially for residents without access to

cars, and highlighted the need to ensure that communities were not isolated due to poor infrastructure. Investment in bus services, electric vehicle infrastructure, and integrated cycle routes was seen as essential for reducing car dependence and enhancing accessibility.

Participants often connected this goal with broader sustainability and inclusivity priorities. For instance, improved transport links were framed as enabling more equitable access to nature, services, and job opportunities—particularly for younger and lower-income residents. Active travel infrastructure such as walking and cycling paths was also discussed as a means of promoting health, reducing emissions, and enhancing local quality of life.

There were debates about where investment should be prioritised. Some players focused on improving transport connections between villages and nearby towns, while others emphasised the need for better infrastructure serving tourists. In several games, players proposed redirecting funds toward path upgrades, bike hire schemes, or ranger-supported transit options to manage visitor flows sustainably and reduce traffic congestion in peak seasons.

Tensions emerged around balancing visitor access with local needs. Some players expressed concern that increasing transport capacity could lead to overcrowding or environmental degradation unless carefully managed. There was also concern in a few games about the feasibility and cost of major infrastructure changes in remote or dispersed rural areas.

Overall, Goal 10 was widely viewed as a critical enabler for achieving environmental, social, and economic goals within the National Park. Most players linked it explicitly to other goals—such as **Housing**, the **Wellbeing economy**, **Visitors**, and **Net zero**—emphasizing that progress on transport and access would unlock benefits across the board. Despite practical concerns, there was broad agreement that sustainable transport investment should be a priority and that it should be designed in close consultation with local communities to reflect their specific mobility needs and values.

## Goal 11: Cultural heritage

**Goal 11: Cultural Heritage** was proposed in six of the seven games, but only emerged intermittently as a point of discussion, reflecting varying degrees of importance depending on the composition of each game group. It was only chosen as a priority goal in one game

In that game, several participants noted the cultural significance of the Cairngorms, emphasising its rich local heritage. One participant, a long-time resident of Aviemore, argued that “history and culture are what make the Park feel alive,” highlighting the importance of preserving old buildings and Gaelic traditions. Another mentioned that tourism related to historical sites could support economic development.

In another game, while the group acknowledged the relevance of cultural heritage, it did not make the final selection. A participant suggested it was a “nice to have” but less urgent than environmental goals.

Often Cultural heritage was quickly dismissed. One player remarked that safeguarding historical features could “bring identity” and “help young people feel more connected to the area.” However, the conversation shifted quickly to infrastructure and housing issues, which dominated the group’s priorities.

Participants appeared more focused on topics such as affordable housing, climate change, and transport, with little or no attention given to cultural or heritage matters during their deliberations. One participant noted it was “easy to overlook” but potentially useful for community building. It was viewed as complementary rather than core—something that could support tourism and wellbeing but would “follow naturally” if other goals like accessibility and education were addressed.

In summary, Goal 11 was occasionally selected or discussed but often deprioritised compared to pressing economic or environmental concerns. Where it did arise, players framed it as important for local identity, tourism, and education, though rarely as an immediate priority.

## Consensus and dissensus

Across the seven games, the greatest consensus consistently clustered around two goals:

### 1. **Housing**

Every group prioritised housing, often without even needing to debate whether it belonged in the top four. Once the goal was read aloud, participants immediately agreed the goal, treating “ensure that 75% of new housing is for social rental.... Providing affordability in perpetuity” as a non-negotiable necessity.

### 2. **Wellbeing economy**

Despite repeated quibbles over the jargon (“to me [‘well-being economy’] doesn’t really mean anything”) every game selected it. In later scoring rounds, it routinely “went off the charts” on plus-votes and even won tie-breaks because “it catches a bit more” than narrower goals (for example, health or visitors).

## Strong but variable support

- **Village and town centres** was selected in three of the seven games. While few contested its importance, several groups paused to question whether the Park Authority truly influences education, health and leisure facilities, reminding everyone that vibrant hubs require cross-agency partnerships.
- **Transport and access** was chosen in three games. Some debates revealed confusion, and some thought it meant only cycle lanes; others flagged that low-floor buses have improved, but riders simply didn’t know about them.

## Least consensus and biggest gaps

- The **Ecology, Net zero, Mental and physical health, and Visitors** goals were not selected for any top four sets. Health was repeatedly included in the **Wellbeing economy** discussions, while visitor management was deprioritised in favour of resident-focused concerns.
- The **Landscape** goal was selected twice and **Cultural heritage** only once. The sole Cultural heritage debate was pitched directly against **Ecology**. Advocates argued passionately that “it’s quite overlooked” in favour of purely environmental aims.

## Moments of heated debate

- **Housing permanence vs. developer viability:** In one game, one participant on a housing association board warned of skewed incentives:

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“If there’s no incentive to build... something has got to give. It’s having knock-on effects in the rental market because there’s no incentive... to build to rent.”

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- **Meaning of community ownership:** In two games, groups wrestled with whether “ownership” meant legal title or simply “having a say” in land management—and whether planning policy could truly deliver it.
- **Ecology’s reach:** When Ecology was selected as a goal, participants noted that many ecological actions, like tree-planting, fall under Scottish Forestry, not planning, making the Park Authority’s influence “quite niche”.

In summary, the discussion around National Park goals revealed remarkable alignment on housing and a well-being economy, moderate variability on the goals relating to village centres and transport (reflecting differing local contexts), and significant divergence on goals relating to visitors, ecology, net zero, and standalone health goals.

The process’s strength lay in provoking targeted, locally grounded and open debates, highlighting where consensus is strong and where tension between goals resides.

## 4 // Views on policies

Players took it in turns to play the Otter and discuss and select a policy card from a suite of twenty-nine policies, resulting in the selection of five or six policies in total, depending on the number of players in the game. Across all seven games, a remarkably coherent suite of policy choices emerged. In particular, there was a handful of “core” cards which appeared again and again, supplemented by individually-tailored picks. In what follows, we outline stand-out policies, examine how the groups converged on certain policy, and how the “Otter-powered” process drove those decisions:

### Core policy themes

Across the board, six policy cards were picked in at least five of the seven games:

#### **Support sustainable rural development in communities (National Planning Framework 4 Policy 29)**

Chosen first in six games, this broad card was prized for knitting together housing, local economy, transport and community vitality in one sweep.

#### **Require high-quality, affordable, diverse and sustainable homes (National Planning Framework 4 Policy 16)**

Cementing the universally-chosen Housing goal, this card was the Otter’s final pick in four games and a close runner-up in the others.

#### **Support community wealth-building (Wellbeing economy) (National Planning Framework 4 Policy 25)**

With direct links to jobs, equity and local ownership, this card was in every final package; players repeatedly praised its ability to “lock in” the young workforce and spread benefits widely.

#### **Prioritise town and local centres (National Planning Framework 4 Policy 27)**

Selected in six games, it supported the Village and Town Centres goal by focusing development in existing hubs—even as participants reminded each other that delivery depends on strong council and community partnerships.

#### **Require well-designed places (National Planning Framework 4 Policy 14)**

Brought in by the final Otter round five times, the choice of this card highlights the importance of design quality, character and adaptability to participants.

#### **Support health and well-being uses (National Planning Framework 4 Policy 23a)**

Selected in five games, it fulfilled participants’ priorities around youth amenities, outdoor play and community health infrastructure—often sparking lively debate about the Park Authority’s direct role versus partner agencies.

## Tailored add-ons

Beyond those six, each group added in specific policies:

**Support shops in rural areas (National Planning Framework 4 Policy 28)** to shore up village economies.

**Protect outdoor play, recreation & sports facilities (National Planning Framework 4 Policy 21)** for youth and wider health needs.

**Create connected and compact places (local living) (National Planning Framework 4 Policy 15)** to knit communities by foot, bike or bus.

**Support renewable energy (National Planning Framework 4 Policy 11)** and **Minimise construction waste (National Planning Framework 4 Policy 12)** to drive low-carbon, circular outcomes.

**Protect and restore nature and landscapes (National Planning Framework 4 Policy 4)** in the group where the Ecology goal was in the top four.

## Summary of selected policies

Below is the description of general summaries of each selected policy.

### National Planning Framework 4 Policy 2: Minimise carbon emissions

Across the seven games, this policy received broad acknowledgement as an important and high-impact policy. However, it was often discussed more in terms of scoring mechanics than as a specific development strategy and was sometimes overshadowed by policies perceived as more actionable or locally relevant.

Central to net zero strategy: Participants regularly referenced net zero as a core outcome, with this policy seen as a key driver. Many players noted their group scored “7 out of 7” for net zero, attributing that success in part to selecting this or related policies.

Players frequently linked carbon reduction to other policies like compact communities, peatland protection, or public transport. In these cases, the carbon benefit was acknowledged but not always the primary motivation for selection.

Although players respected its ambition, some hesitated to choose the policy outright. One participant remarked on how the card’s scoring didn’t fully reflect the policy’s broader importance, suggesting the policy’s benefits included other categories like housing.

A few comments indicated that players believed the region was “already doing quite well on net zero,” reducing the urgency to select this policy over others.

One participant raised questions about net zero in the context of siting energy infrastructure, highlighting tensions between emissions goals and development

realities in the northeast of Scotland (for example, pylons, masts and energy corridors).

In summary, the “Minimise carbon emissions” policy was consistently respected and frequently cited as contributing to high net zero scores. However, players often preferred policies that addressed emissions indirectly through transport, land use, or peatland protection. While its relevance was rarely questioned, its abstraction, overlap with other goals, and the perception that the region was already making progress on carbon led to more cautious prioritization in gameplay.

### National Planning Framework 4 Policy 3: Protect and strengthen biodiversity

Across all seven games, the policy “Protect and strengthen biodiversity” consistently emerged as a high-value and emotionally resonant priority. Participants viewed it as essential not only for environmental stewardship but also for long-term resilience, tourism, and community identity—particularly in a rural setting like the Cairngorms.

Players across multiple groups emphasised that protecting biodiversity is central to the identity and natural appeal of the area. One group described it as “the baseline,” noting that “if we don’t have nature, we don’t have anything else.”

Several participants supported this policy even when it conflicted with economic or housing priorities. It was framed as a non-negotiable that underpinned the area’s future and the quality of life for both residents and visitors.

Biodiversity protection was seen as especially meaningful given the Cairngorms National Park’s ecological value. This sense of specificity made it feel more actionable and grounded than some broader or more abstract policies.

Players repeatedly linked biodiversity to tourism, highlighting its role in attracting visitors and maintaining the area’s global image. One group argued it “brings income indirectly through reputation and visitors,” reinforcing the economic logic of conservation.

While widely supported, biodiversity occasionally clashed with development ambitions. In a few discussions, participants noted the difficulty of balancing conservation with the need for new housing or infrastructure.

Some players recognised biodiversity protection as overlapping with policies on greenfield protection, nature restoration, and carbon storage. While this didn’t reduce its importance, it sometimes prompted strategic bundling or substitution.

In summary, “Protect and strengthen biodiversity” was among the most unanimously valued policies across all games. Participants saw it as place-specific, urgent, and deeply tied to both ecological and economic outcomes. While not without trade-offs, it was frequently selected, strongly defended, and described as foundational to any long-term development strategy in the region.

## National Planning Framework 4 Policy 4: Protect and restore nature and landscapes

Across the seven game sessions, the policy “Protect and restore nature and landscapes” generated moderate to strong engagement in five of the games, with consistent support for preserving natural assets—though emphasis and depth varied.

Players generally affirmed that development should not harm natural environments. Multiple participants used personal or local examples (for example living in scenic areas and valuing wild places) to express why natural assets needed protection. Several explicitly stated that this policy was among their top choices, framing it as foundational to the region’s identity and appeal.

In multiple games players described the policy as a “catch-all” that indirectly supports other environmental goals like biodiversity, carbon reduction, or peatland preservation. This made it popular, but also hard to prioritise above more specific cards.

Some groups debated whether this policy duplicated others (like “Protect biodiversity” or “Minimise carbon emissions”). Despite overlap, players still valued its symbolic importance in reinforcing environmental stewardship.

A few players acknowledged trade-offs. In one group, a participant emphasised that while nature must be protected, communities still needed infrastructure and housing. Another added that “not harming” might require stronger regulation or clearer thresholds for acceptable impact.

One interesting interpretation from Game 6 reframed nature and landscapes as part of “infrastructure,” broadening the idea that protecting natural assets also serves human systems—water retention, health, tourism, etc.

Some noted that while this policy felt essential, it hadn’t been reflected in the initial goals they’d picked—suggesting a gap between players’ values and the structured game choices.

In summary, the policy was widely accepted as essential, though sometimes treated as background rather than a focal point. Players linked it to regional identity, sustainable tourism, and ecosystem integrity. Debates mostly centred on overlap, implementation, and prioritisation—not whether it mattered. It served as a unifying principle that anchored discussions, even if not always selected as a lead policy.

## National Planning Framework 4 Policy 5: Protect carbon-rich soils and peatlands

Across all seven games, “Protect carbon-rich soils and peatlands” sparked sporadic but pointed discussion, with notable disagreements and differing interpretations about its relevance and practicality.

Several players acknowledged the ecological value of peatlands, noting its role in carbon storage and climate mitigation. In one game, the policy was praised for protecting vulnerable landscapes often overlooked in development decisions.

In at least three games, players deprioritised the policy, either because it seemed too narrowly focused or lacked direct connection to their chosen goals (for example Housing and the Well-being economy). One player commented that it "supports something niche" and "wasn't as impactful" compared to broader sustainability policies.

Some participants were unsure how peatlands differed from other landscape protections or biodiversity policies. Others grouped it with environmental priorities but didn't perceive it as central.

In one group, a participant explicitly said they would "get rid of that one" when reviewing selected cards. Another argued that while peatland protection was valid, it was less relevant than social issues like housing or service access.

A few participants fixated on whether the policy only supported small-scale or renewable energy developments, creating confusion about its scope. This limited support from players who saw it as restrictive rather than enabling.

In summary, while the protect carbon-rich soils and peatlands policy was occasionally endorsed as essential for long-term ecological health, it was more often overlooked, misunderstood, or deprioritised in favour of more immediately tangible goals. Where discussed in depth, debates focused on trade-offs between environmental integrity and rural development needs. Despite pockets of strong environmental concern, the policy often struggled to compete in a limited-choice, goal-oriented game structure—frequently seen as peripheral rather than foundational.

#### **National Planning Framework 4 Policy 6: Protect and expand forests, woodland and trees**

The policy "Protect and expand forests, woodland and trees" elicited strong emotional and practical support in at least four games. It was discussed both as a stand-alone priority and in relation to overlapping environmental concerns like biodiversity and landscape protection.

Several players expressed deep personal connections to local woodlands. One participant shared how they had stopped hearing woodpeckers near their home due to recent development—highlighting a loss of biodiversity linked to tree removal.

Forests were frequently described as integral to the identity and appeal of the region. Players noted that visitors and residents alike value the area's woodlands and the rare wildlife they sustain.

A few players questioned whether this policy was already covered by broader ones, such as “Protect biodiversity” or “Restore landscapes.” One participant argued that biodiversity protections implicitly included woodlands, and that having all three might be repetitive.

While most players endorsed forest expansion, there was a shared emphasis on doing it sensitively. One participant preferred natural regeneration and ecological corridors over “firing trees into the ground.” The need to avoid monoculture planting or haphazard reforestation was clearly articulated.

In groups where the card wasn’t selected, it was typically outcompeted by more urgent social goals (for example housing, community infrastructure). Still, players acknowledged its intrinsic value.

Some saw woodland protection as a proxy for multiple goals: carbon storage, biodiversity, flood mitigation, and cultural heritage.

In summary, the woodland policy was one of the more viscerally supported environmental measures across the games. It combined tangible ecological benefits with personal, place-based attachments. While some saw it as overlapping with other green policies, its symbolic and practical weight led several groups to elevate it as a core priority. Players consistently endorsed protection from fragmentation and supported thoughtful, place-sensitive expansion.

#### **National Planning Framework 4 Policy 7: Protect and enhance historic assets**

Across the seven games, the policy “Protect and enhance historic assets” received modest attention, surfacing as a priority in only a few discussions. When addressed, it generated reflections on heritage preservation, potential trade-offs with modernisation, and varying interpretations of what constitutes a “historic asset.”

In one game, a participant selected the policy specifically because they live in a conservation area and chair a local Conservation Society. They highlighted that “historic assets” includes broader environmental and cultural heritage as well as buildings.

Another player noted that while they didn’t choose the historic assets policy directly, they appreciated that it could link with other priorities like sustainable transport and green space—suggesting indirect alignment even when not explicitly chosen.

A facilitator raised the challenge of retrofitting historic buildings with green technologies (for example solar panels, heat pumps), highlighting tensions between preserving built heritage and achieving net-zero targets.

Some players pushed back, arguing that passive solar design in new builds shouldn’t be seen as conflicting with cultural heritage—indicating confusion about whether the policy applied only to old structures or also influenced new development contexts.

Most groups did not select this card as a top policy. When it appeared in goal deliberations, it typically lost out to more immediate social or environmental needs like housing, biodiversity, or health.

Players often viewed heritage protection as valuable but less urgent in the face of housing shortages, cost-of-living pressures, or environmental degradation.

In summary, the policy was most strongly supported when participants had personal ties to heritage preservation. However, it faced challenges in prioritisation due to perceived lower urgency and potential friction with sustainability efforts. While the value of historic assets was acknowledged, discussions often re-framed it as part of broader place-making or identity themes rather than a stand-alone development constraint.

### **National Planning Framework 4 Policy 9: Reuse brownfield land and limit greenfield development**

Across the seven games, the policy “Reuse brownfield land and limit greenfield development” prompted thoughtful debate, with some players strongly supporting it as a sustainability measure, while others questioned its local relevance—especially in the rural and protected context of a National Park.

Several players voiced strong backing for protecting greenfield sites and natural landscapes. One participant emphasised: “Why are we not developing on brownfield? Why take away greenfield?”

Supporters framed brownfield reuse as a smart way to address local housing needs while avoiding further ecological disruption. A player noted underused sites in their area could support small-scale housing and reduce long commutes for local workers.

Participants mentioned that reusing previously developed land can reduce costs and increase equity—placing housing closer to jobs and transport links.

Some questioned whether the policy was realistic in the National Park. One participant said it “makes sense in Glasgow,” but not in the National Park, which lacks sufficient brownfield land. For this reason, they ruled the card out early, despite finding it otherwise valid.

Others pointed to the “enormous pros and cons” in the policy wording—especially the clause allowing greenfield development where land is allocated. This introduced ambiguity and concern about interpretation.

The rural character of the National Park made this policy more contested than others. Even those who agreed with its spirit hesitated over its practicality.

The discussion often linked to broader themes of housing, transport, and affordability—indicating its relevance even when not selected.

In summary, this policy triggered both principled support and pragmatic pushback. While many participants endorsed protecting greenfield land and prioritising redevelopment, doubts about the local feasibility of brownfield reuse limited its uptake. The policy served as a useful flashpoint for debating development patterns, ecological limits, and rural housing challenges—but ultimately faced hurdles due to the perceived scarcity of brownfield opportunities in the National Park setting.

#### **National Planning Framework 4 Policy 11: Support renewable energy**

Across the seven games, the policy “Support renewable energy” received recurring but varied attention. It was occasionally selected and more frequently discussed in relation to other development goals, such as climate change mitigation, local economic benefits, and protecting landscapes.

Many players supported renewable energy development in principle, especially when framed as a tool to reduce emissions and support Scotland’s climate commitments. Some players linked it directly to climate goals or national targets for decarbonisation.

Several discussions emphasised the need for renewables to deliver tangible local advantages. Participants welcomed wind and solar development if projects brought jobs, lower energy bills, or reinvestment into the local area.

A few groups acknowledged renewables as part of future-proofing the region, especially in the context of energy security and reducing reliance on fossil fuels.

Despite support in theory, participants consistently raised concerns about the visual and ecological impacts of large-scale infrastructure (for example wind turbines, solar farms) in scenic or sensitive areas like the Cairngorms National Park.

Some players worried that renewable energy projects might undermine other policies—such as protecting landscapes, biodiversity, or peatlands. This created trade-offs, particularly in more environmentally focused groups.

Participants stressed that not all renewable development was equal. The policy was viewed more favourably when projects were “small-scale,” “community-led,” or carefully located to avoid ecological damage.

The renewable energy policy was not always selected as a priority card, even by environmentally inclined groups. This often came down to tensions between national energy needs and local conservation priorities.

In some sessions, players misread or debated the policy’s scope. Where groups interpreted it narrowly (for example industrial-scale wind farms), support waned; where framed as community energy or heat networks, enthusiasm increased.

In summary, the policy was generally well-regarded but often qualified with “yes, but...” sentiment. Participants expressed conditional support: they welcomed

renewable energy development when it delivered community benefits and respected the local environment but were wary of imposing large infrastructure on fragile rural or scenic areas. The policy's success in the game context depended heavily on how players interpreted scale, control, and ecological sensitivity.

#### **National Planning Framework 4 Policy 12: Minimise construction waste**

Across the seven games, the policy "Minimise construction waste" attracted limited but passionate discussion. When mentioned, it was either quickly dismissed as low-impact in the regional context or strongly championed by individual players who saw untapped opportunities in sustainable building practices.

In at least one group, a participant argued that the policy was not a priority because "we only build about three houses a year anyway." This view framed construction waste as a marginal issue in the Cairngorms context.

The policy was rarely chosen as a lead priority card and did not emerge in most groups' goal selection or final decisions.

One player passionately defended the policy, highlighting that sustainable construction practices—like reusing buildings or sourcing low-carbon materials—are both environmentally responsible and underregulated. They framed the policy as critical considering housing needs and called for more local innovation.

The same player noted that embracing construction waste reduction could create new local business opportunities around reuse and material sourcing, making the policy a potential economic as well as environmental win.

There was also a general sense of frustration that not enough attention is paid to material origins and waste reduction in current building practices—suggesting a knowledge gap and regulatory weakness that this policy might address.

In summary, the policy saw low engagement overall but triggered strong support from a minority of players who viewed it as a forward-looking, underutilised opportunity. Others dismissed it as contextually irrelevant due to low local construction activity. The lack of widespread discussion may reflect the technical framing of the policy, or its perceived indirect impact compared to more urgent land use and environmental priorities. However, where discussed seriously, it was linked to innovation, climate goals, and regional economic potential.

#### **National Planning Framework 4 Policy 13: Prioritise walking, cycling and public transport**

Across the seven games, the policy "Prioritise walking, cycling and public transport" consistently resonated with players—particularly in relation to accessibility, rural infrastructure, and climate-conscious planning. While not always a top priority, it generated meaningful discussion in nearly all sessions.

Participants highlighted the importance of public transport for those without access to a car—especially older adults, youth, and lower-income residents. Several noted this was about “more than just carbon”—it also supports equity and independence.

While enthusiasm for walking and cycling varied, many acknowledged their broader benefits. Some players were less personally invested in cycling, citing distances or terrain, but still supported investment in safe, well-connected routes.

A common refrain was the difficulty of applying this policy in remote or dispersed communities. Players noted that bus services were infrequent or non-existent areas, making car reliance unavoidable. This reduced confidence in the feasibility of fully implementing the policy.

Some players observed overlap between this card and others promoting town centre development, accessibility, and sustainability. One player argued it “feeds into” broader goals around wellbeing and local economies.

Several participants saw the policy as a tool to guide the location of new housing or infrastructure—towards places that already have transport links or could support active travel infrastructure. This planning logic was well received.

In summary, the transport policy was widely seen as important but not always actionable given the rural context. It appealed most when framed as part of a broader effort to make communities more connected, inclusive, and resilient. While active travel drew mixed levels of personal relevance, the equity and emissions arguments for better public transport gained strong support. The policy’s effectiveness often depended on how realistically players thought it could be implemented in the region.

**National Planning Framework 4 Policy 14: Require well designed places**  
Across the seven games, the policy “Require well designed places” was generally well received but often overshadowed by more urgent priorities. When discussed, players viewed it as a versatile and holistic policy that could underpin multiple other goals—though some struggled to justify it as a top selection on its own.

Several participants noted that the policy “ticks most of the boxes,” integrating themes of health, sustainability, connection, and adaptability. This gave it a strong foundation as a cross-cutting principle that could support various goals from climate adaptation to community well-being.

One player argued that adopting this policy could enable other policies to succeed, describing it as something that could be used to “drive” broader change in a development context.

Some participants felt the policy’s broad scope made it difficult to prioritise, especially when other cards presented more specific or urgent challenges (for

example, housing, biodiversity). Players found it valid but struggled to select it when “they’re all really, really good.”

In multiple discussions, players felt the policy’s aims were already covered by other selected priorities, such as health, digital infrastructure, or rural sustainability—leading to it being put “to the side.”

In summary, players recognised “Require well designed places” as an important, integrative policy that connects to many development goals. However, its generality sometimes worked against it in the game’s competitive format, where specificity and immediacy helped other policies stand out. The policy was most appreciated when seen as a foundation for sustainable and connected communities, though rarely championed as a top priority in isolation.

### **National Planning Framework 4 Policy 15: Create connected and compact places (local living)**

Across all seven games, the policy “Create connected and compact places (local living)” was one of the most positively received and clearly understood policies. It consistently drew support for its ability to deliver multiple co-benefits across transport, housing, health, and sustainability goals.

Players saw this policy as contributing to a wide range of objectives—from climate resilience and housing to well-being and economic vitality. One participant explicitly chose it because it “hit a lot of the goals” with no clear downsides.

The idea of “local living” resonated across urban and rural contexts, with participants seeing the value in enabling residents to meet most daily needs within walking or cycling distance. It was often described as practical, community-oriented, and realistic.

Some players treated it as a foundational principle for sustainable development. It was described as a good “starting point” for policy-making, supporting the design of resilient and adaptable communities.

Participants noted how compact and connected places could enhance mental and physical health, reduce emissions, and strengthen town centres. The policy was often evaluated highly across all impact categories in the game.

In summary, this policy was among the most widely endorsed across the games. It was appreciated for its broad relevance, low controversy, and high contribution to multiple outcomes. Participants recognised that compact, walkable, and well-connected communities can improve access to services, reduce car dependency, and promote equity and sustainability. Even in rural settings like the Cairngorms, players saw value in concentrating development near existing hubs to reinforce liveability. Overall, this was a policy that drew consistent, enthusiastic support and featured prominently in strategy formation.

### **National Planning Framework 4 Policy 16: Require high quality, affordable, diverse and sustainable homes**

Across all seven games, Policy 16—requiring high quality, affordable, diverse, and sustainable homes—was consistently discussed as a central challenge and priority. In nearly every game, players emphasised the acute need for affordable housing to retain and attract young people, especially families and workers in the National Park. Participants repeatedly flagged that housing affordability is a structural barrier to population renewal and economic stability, particularly in remote rural areas.

In Game 1, players linked housing with community well-being and service sustainability, suggesting that diverse housing types and tenure options would help address demographic imbalances. In Game 2, the shortage of homes for young people and key workers was a pressing concern, and there was strong support for interventions that would allow people to live near their work, reducing commuting and promoting local economies.

Game 3 added nuance by highlighting design quality and the integration of new housing into existing communities. There was a preference for small-scale, sustainable housing developments, ideally aligned with climate goals. Game 4 also saw discussion around the importance of sustainable materials and avoiding developments that mimic “urban sprawl.”

In Game 5, the group was particularly concerned about second-home ownership and its impact on affordability and community cohesion. Players expressed frustration at the high proportion of vacant or tourist-use homes and supported policies prioritising full-time residents. Game 6 also visited this theme, arguing for mechanisms to ensure affordable housing remained available for local people in perpetuity, possibly via community land trusts.

Game 7 participants made a strong case for aligning housing with employment goals, highlighting that a thriving economy requires affordable homes to attract and retain a stable workforce. Several players emphasised the lack of housing options for different life stages—for example, smaller homes for downsizers or flexible housing for younger people—and called for a mix of housing types to reflect community needs.

In summary, across all games, players acknowledged that this policy intersects with others, such as sustainability, transport, and community resilience. Participants viewed housing not just as a technical planning issue but as a cornerstone of social and economic development in the National Park. There was widespread support for embedding affordability and sustainability into planning regulations to ensure development benefits long-term residents, not just tourists or investors.

### **National Planning Framework 4 Policy 17: Support new rural homes**

Across all seven games, Policy 17—supporting new rural homes—was widely discussed and generally well supported. Participants consistently acknowledged the

urgent need for more housing in rural parts of the Cairngorms, especially to address population decline, affordability challenges, and the outmigration of young people.

Many players emphasised that rural communities face shrinking populations and an aging demographic. New rural homes were seen as essential to attracting and retaining young people, workers, and families.

Participants across games linked rural housing to local economic sustainability. Small-scale housing near existing settlements was described as crucial to supporting services, schools, and small businesses.

While supportive of rural housing, players stressed that development must remain sensitive to the character and scale of the area. There was strong support for infill and edge-of-settlement homes rather than dispersed or speculative developments.

In several games, participants voiced concern about inappropriate design or developments that resemble “housing estates.” The importance of vernacular architecture and integration with the landscape was often mentioned.

Many players did not treat this policy as sufficient on its own. It was often bundled with other policies—like affordable housing, sustainable design, and access to services—to ensure that rural development would meet broader community needs.

In a few discussions, players expressed concern about balancing rural housing with the protection of natural assets. This led to debates over the location of such development, especially in sensitive landscapes.

In summary, policy 17 received widespread and practical support across all groups. It was seen as a critical response to rural depopulation, housing shortages, and economic fragility. However, participants stressed that rural housing must be carefully designed, scaled, and located to maintain the character of the National Park. When aligned with affordability, sustainability, and place-based design, small-scale rural housing was viewed as both necessary and achievable.

### **National Planning Framework 4 Policy 18: Require infrastructure with development**

Across the seven games, Policy 18— “Require infrastructure with development”— was broadly understood and generally supported, though its breadth sometimes made it difficult to prioritise. Participants saw it as a common-sense requirement to ensure that development is accompanied by necessary services and mitigates any strain on local infrastructure.

Players interpreted “infrastructure” expansively, encompassing physical services like roads, water, and electricity, as well as social infrastructure such as schools, GP surgeries, and green networks. Some also included community amenities like digital connectivity, transport, and even the health service.

Players often linked this policy to housing growth, noting that if new homes are built, they should come with commensurate investment in schools, health facilities, and other community services.

In at least one discussion, concerns were raised about the burden that increased tourism places on infrastructure. The policy was seen as a tool for ensuring visitors don't overwhelm existing systems.

Several groups discussed the idea that all development creates impacts, and that those should be avoided, minimised, or mitigated. This was tied to broader themes of fairness and the "greater good" of development.

Specific examples included offsetting housing development with expanded school places or health services. Players appreciated the policy's logic, though some wanted clearer standards for what "contribution" would look like in practice.

A few participants saw this policy as too generic to champion on its own, noting that it should be part of all good planning decisions. For some, this led to it being deprioritised in favour of more targeted policies.

Others framed it as an enabler—something that made other goals achievable by ensuring developments were viable and supported community needs.

In summary, this policy was broadly endorsed as a foundation for sustainable and equitable development. While not always selected as a top priority due to its generic framing, it underpinned many discussions about housing, health, education, and environmental impact. Players agreed it is essential that new development supports, rather than strains, local infrastructure.

#### **National Planning Framework 4 Policy 19: Prioritise natural and passive heating and cooling solutions**

Across the seven games, Policy 19— "Prioritise natural and passive heating and cooling solutions"—received thoughtful engagement in several groups. While not always a top pick, it was praised for its forward-looking approach and alignment with sustainable building principles.

Players repeatedly clarified that this policy was about using passive design principles—like siting, orientation, and material choices—rather than relying on technology such as solar panels or heat pumps. This distinction helped participants see it as broadly applicable and environmentally beneficial.

Some players saw it as a meaningful way to help future-proof buildings against extreme weather, especially heat. It was framed as both an emissions-reduction and a resilience strategy.

Players discussed how passive design should be "embedded right from the outset" of planning processes, such as site allocations. They emphasised that decisions

about housing or infrastructure should begin with consideration of natural conditions and energy efficiency.

One participant suggested expanding the scope beyond heating / cooling to include biodiversity net gain, water systems, and green infrastructure—positioning the policy as part of a larger sustainability agenda.

In one group, players struggled with the way the policy was scored in the game, noting that while it was related to housing quality, it did not directly increase housing supply or affordability, which led to lower prioritisation despite strong support.

There was some initial confusion over whether the policy conflicted with cultural heritage goals, but this was resolved in discussion, with participants agreeing it applied primarily to new builds, not retrofits.

In summary, participants appreciated Policy 19 as a smart, low-impact way to improve building sustainability. It resonated most with those interested in integrated, future-oriented planning. While not always prioritised due to scoring mechanics or competition from more urgent goals, the policy was seen as an enabler of net zero and high-quality design. Players called for it to be standard practice in planning rather than treated as an optional add-on.

#### **National Planning Framework 4 Policy 20: Protect and enhance blue and green infrastructure**

Across all seven games, Policy 20— “Protect and enhance blue and green infrastructure”—was widely understood and generally supported. Participants viewed blue and green infrastructure not just as an amenity but as essential for environmental health, climate resilience, and community wellbeing.

Players appreciated how green and blue spaces contribute to biodiversity, carbon sequestration, flood mitigation, and water quality. These functions were repeatedly cited as reasons to embed blue and green infrastructure in new development rather than treat it as an afterthought.

Several participants linked access to blue and green infrastructure with health and wellbeing. Open spaces, walking paths, and access to nature were framed as public goods vital for liveability, particularly in rural or aging communities.

Players across games argued that green infrastructure should be treated as core infrastructure—on par with roads or sewage systems. Some suggested it should be mandatory in all new developments.

There was concern about the slow erosion of green space through piecemeal development. Participants stressed the importance of a “no net loss” or “net gain” approach, with requirements for enhancement where loss is unavoidable.

Some players raised questions about who would maintain green infrastructure once established—councils, developers, or communities? There was concern about ensuring that blue and green infrastructure doesn't degrade over time due to lack of care.

In some games, tension emerged between preserving open space and meeting housing or economic development goals. However, many players argued that these could be reconciled through better design, like integrating green space within housing layouts or creating multifunctional corridors.

In summary, policy 20 was seen as essential to long-term sustainability and community wellbeing. While not always selected as a top priority due to competition with housing or infrastructure needs, it was valued for its cross-cutting benefits—from biodiversity to mental health. Participants stressed the need to treat blue and green infrastructure as an integral, well-maintained feature of development, not a cosmetic add-on. Many groups saw it as a baseline expectation for responsible planning.

#### **National Planning Framework 4 Policy 21: Protect outdoor play, recreation and sport facilities**

Across the seven games, Policy 21—“Protect outdoor play, recreation and sport facilities”—was consistently discussed with strong support, particularly in relation to community wellbeing, intergenerational equity, and quality of life. Players saw outdoor play and sports facilities as essential for children, families, and broader community cohesion.

Participants emphasised the importance of play spaces for children's development and wellbeing. Many were concerned about the gradual loss of such spaces due to housing pressures or commercial development.

A recurring theme was that good recreational amenities help retain young families and attract newcomers to rural communities, counteracting depopulation trends.

Players identified outdoor sports spaces as social hubs, particularly in small communities. These facilities were seen as not just for fitness, but also for building social capital and intergenerational interaction.

A few groups noted the public health value of easy access to outdoor recreation—citing physical activity and mental wellbeing as key long-term benefits.

Many players expressed concern about developments that displace existing recreational spaces, particularly where no equivalent or better replacements are offered.

Some noted that developers often try to satisfy planning conditions with minimal green space, but that these do not always meet community needs for meaningful or usable recreational areas.

In summary, policy 12 was valued not just for its emphasis on recreation but as a wider statement about planning for people and place. Participants viewed outdoor play and sports facilities as vital community infrastructure that should not be sacrificed for short-term development gains. The strongest support came from groups that connected this policy to youth retention, health, and rural vitality. Most participants agreed that such spaces should be protected by default and enhanced wherever possible—especially in new developments.

#### **National Planning Framework 4 Policy 22: Avoid flood risk areas**

Across all seven games, Policy 22—“Avoid flood risk areas”—was consistently supported and understood as a key principle of sustainable development. It was often treated as common sense, with players agreeing that development should not worsen flood risks and must rely on sustainable water systems.

Participants in multiple games cited their own experiences of flooding or referenced well-known flood-prone areas. There was strong awareness that climate change is increasing the frequency and severity of flooding, making this policy increasingly relevant.

Several groups treated flood-prone areas as non-negotiable exclusions for development. They saw it as a straightforward filter: if a site floods, it shouldn't be built on—especially not for homes or key services.

Some players pointed out that while avoiding flood zones is ideal, it can limit available land for affordable housing—especially in rural or constrained areas. However, most agreed that long-term safety outweighed short-term gains.

The connection to water mains or sustainable drainage systems was widely acknowledged. Participants stressed the importance of not just avoiding flood zones but designing water infrastructure to manage runoff and prevent localised flooding.

The policy was often linked to future generations. Players framed poor decisions on siting and drainage as “short-sighted” and creating problems that others—especially younger people—will inherit.

Some discussions referenced rising insurance costs or uninsurable homes as further evidence that development in flood-prone areas is both socially and economically irresponsible.

In summary, players across all games treated Policy 22 as both logical and necessary. It was one of the least controversial policies discussed, with minimal pushback. The strongest discussions focused on balancing flood avoidance with housing needs, and on integrating sustainable drainage systems and water infrastructure from the outset. Participants agreed that flood risk should be a red line in development—protecting people, public finances, and long-term resilience.

## National Planning Framework 4 Policy 23a: Support health and wellbeing uses

Across all seven games, Policy 23a—“Support health and wellbeing uses”—received widespread support, with participants strongly associating it with both preventative public health and enhanced community cohesion. Players viewed development that promotes exercise, local food, and care services as essential, particularly in rural areas facing health inequalities.

Participants emphasised the need for accessible local health and social care facilities. Several groups highlighted the challenge of accessing GPs, dentists, or care for elderly populations, particularly in more remote areas.

Players often framed this policy as preventative—arguing that supporting health-related development now could reduce future strain on the National Health Service.

These were frequently mentioned as low-cost, high-value amenities that provide food, exercise, and social interaction. Players liked that they serve multiple demographics and could fit into compact developments.

Play parks, walking paths, and outdoor fitness zones were discussed as essential for both physical and mental health. Many participants saw these as particularly important for youth and elderly residents.

In several discussions, players broadened the interpretation of the policy to include any place that supports “living well,” including community hubs, green space, and mental health support facilities.

There was strong concern that newer developments sometimes lack access to health infrastructure—especially affordable and culturally appropriate services. Participants felt this policy could help redress those gaps.

In summary, policy 23a was one of the most positively framed policies across all seven games. Players linked it not only to direct health outcomes but also to social inclusion, community resilience, and intergenerational wellbeing. The most valued interventions were those combining health benefits with social or environmental value—such as allotments or exercise trails. Rather than viewing health infrastructure narrowly, players advocated for a broad interpretation that supports thriving, healthy communities across age, income, and geography.

## National Planning Framework 4 Policy 23b: Protect people and places from harm

Across all seven games, Policy 23b—“Protect people and places from harm”—was consistently supported and treated as a core expectation of responsible planning. Players viewed air and noise pollution, as well as physical safety risks, as serious concerns—particularly in the context of vulnerable groups such as children, the elderly, and those with health conditions.

Participants raised concerns about the impact of traffic-heavy developments on local air quality, especially near schools and housing. Some referenced specific developments where air pollution had already caused public opposition.

Noise pollution was commonly linked to industrial zones, roads, and poorly planned housing. Participants considered peace and quiet—particularly in rural areas—as a quality-of-life factor that must be preserved.

Several groups stressed the need to avoid developments that introduce physical risks—such as locating homes near busy roads, dangerous industrial sites, or flood-prone zones. This often overlapped with discussions of Policy 22 on flood risk.

Players highlighted that the combination of different harms—noise, air, and physical danger—can compound vulnerability, especially for already disadvantaged groups.

Participants frequently linked the policy to protecting children. Siting developments near hazardous areas was viewed as particularly unacceptable when it might affect school zones or recreational facilities.

Some noted that poorer or more remote communities are often more exposed to harmful development and less likely to have a voice in the planning process. This was seen as a fairness issue.

In summary, policy 23b was supported unanimously across all games and viewed as a baseline condition for ethical development. Players agreed that development must actively avoid causing harm through air or noise pollution or safety risks. They emphasised the importance of planning that respects health, especially for vulnerable populations. The policy was often invoked when discussing location decisions, infrastructure siting, and the need for health impact assessments. It was seen not just as a technical safeguard, but as a moral responsibility of planners and developers.

#### **National Planning Framework 4 Policy 24: Support digital infrastructure**

Across all seven games, Policy 24—“Support digital infrastructure”—was seen as an essential enabler of rural development, social equity, and economic growth. Players supported the principle of improving digital access but flagged trade-offs and challenges, particularly regarding visual and environmental impacts.

Across multiple groups, players emphasised that digital infrastructure is “fundamental to modern life,” particularly for remote communities. Reliable connectivity was seen as critical for work, education, healthcare, social inclusion, and attracting younger populations.

The importance of digital access was amplified by references to hybrid working and remote learning. Participants argued that poor connectivity limits opportunities and deepens rural-urban divides.

While most supported expanded coverage, participants were cautious about the visual intrusion of masts and infrastructure, especially in scenic or historic areas. They advocated reusing existing infrastructure—like rooftops or current mast sites—to reduce impacts.

Some players appreciated that the policy already included caveats to minimise visual and amenity harm, making it easier to support without qualifications.

Lack of digital access was repeatedly framed as a social justice issue. Several groups noted that communities without good internet were effectively excluded from planning consultations, economic development, and public services.

A few groups raised the importance of not only installing digital infrastructure, but ensuring it is future-proof and resilient—particularly in areas prone to power outages or extreme weather.

In summary, players across all games strongly supported Policy 24, often framing it as a non-negotiable requirement for 21st-century life. While some voiced concerns about the visibility and placement of masts, these were tempered by a shared understanding of the benefits of connectivity. Participants highlighted digital inclusion as a driver of rural resilience, economic vitality, and intergenerational opportunity. Most felt the policy’s built-in requirements for minimising impacts and reusing infrastructure struck the right balance.

#### **National Planning Framework 4 Policy 25: Support community wealth building (wellbeing economy)**

Across all seven games, Policy 25—“Support community wealth building (wellbeing economy)”—was one of the most enthusiastically received, sparking rich discussions about local empowerment, inclusive economies, and alternative development models. Participants saw this policy as a long-term investment in social resilience and community autonomy.

Players consistently emphasised the importance of keeping economic benefits within the community. There was strong support for local job creation, especially through small businesses, social enterprises, and co-ops.

Several groups saw community-led housing, renewable energy, or service delivery as key pathways to retain wealth and increase local control. This was viewed as a counter to external developers extracting value without reinvesting locally.

Participants linked the policy to fairness and redistribution. They felt wealth building strategies were essential to reverse long-term underinvestment in rural or deprived areas.

Some discussions expanded the definition to include food sovereignty, energy independence, and youth retention strategies. Community wealth was seen as both economic and social—about relationships, care, and shared assets.

Players noted that community wealth building reinforced goals around sustainability (for example, local food systems), health (for example, community care hubs), and digital infrastructure (for example, community-run broadband).

Many felt this policy empowered communities to shape development, not just react to it. It was associated with bottom-up approaches, trust-building, and democratic decision-making.

In summary, policy 25 resonated deeply across all groups, who saw it as enabling a shift from extractive to regenerative development. Participants felt strongly that community wealth building should be a foundation, not a “nice to have.” They emphasised local jobs, co-ownership, resilience, and economic inclusion. Rather than only supporting conventional growth, they viewed this policy as encouraging circular, community-first economies rooted in place. The tone across games was hopeful, visionary, and values driven.

#### **National Planning Framework 4 Policy 26: Support business uses in the right locations**

Across all seven games, Policy 26—“Support business uses in the right locations”—was discussed in relation to balancing local economic opportunity with environmental and social compatibility. While most groups were broadly supportive of encouraging business and industry, they emphasised that “right locations” must reflect sustainability, infrastructure access, and community wellbeing.

Participants strongly supported development that enables home-based businesses or mixed-use housing. They saw this as essential for reducing commuting emissions, increasing rural employment, and supporting family life.

Players appreciated the policy’s explicit support for microbusinesses, including craftspeople, local services, and tech freelancers. It aligned with broader community wealth building goals discussed under Policy 25.

There was strong consensus that industrial development must not disrupt residential, historic, or environmentally sensitive areas. Allocated sites were seen as necessary to manage noise, traffic, and pollution risks.

Some players noted that business development—especially larger enterprises—requires good digital, transport, and energy infrastructure. This was tied to discussions of Policies 18 and 23a.

In rural games, players were cautious about allowing business development to sprawl or alter village character. However, small-scale or agriculture-linked businesses were welcomed.

Several groups mentioned that business uses should reflect changing economies—like green tech, remote work, or circular economy ventures—not just traditional manufacturing.

In summary, players across all games agreed with the principle of supporting business uses in appropriate locations, emphasising flexibility, community-scale enterprise, and planning safeguards. They especially valued enabling home working and live-work setups as part of a low-carbon, resilient economy. Concerns centred on poorly located industry, infrastructure strain, and harm to rural or residential character. Overall, this policy was seen as a practical enabler of place-based economic growth that must be tightly integrated with other sustainability and wellbeing goals.

**National Planning Framework 4 Policy 27: Prioritise town and local centres**  
Across all seven games, Policy 27—“Prioritise town and local centres”—was widely supported, with participants viewing it as essential for fostering social connection, economic vitality, and equitable access to key services. Players framed vibrant town and local centres as hubs of community life, resilience, and sustainability.

Players agreed that cultural, educational, leisure, and health facilities should be in town and local centres to encourage use, reduce car dependency, and create places where people want to spend time.

There was concern about the decline of high streets and traditional centres, especially in rural areas. Participants saw this policy as a tool to revive these spaces through mixed-use development and pedestrian-friendly planning.

Groups were clear that locating major facilities or services outside town centres (for example edge-of-town retail parks or isolated leisure facilities) undermines local vitality, increases car travel, and drains footfall from central areas.

Participants highlighted that centralised development ensures better access for those without private vehicles, especially older adults, children, and low-income residents.

Several groups connected the policy to a sense of place and identity. They wanted town centres to feel welcoming, safe, and culturally rich—not just commercial.

There was strong alignment between this policy and wider themes of community wealth building. Players supported development that brings people together and reflects community needs, not just profit.

In summary, policy 27 was positively received across all games. Players saw vibrant, inclusive town and local centres as central to a healthy, sustainable development model. They supported clustering leisure, culture, education, and health services in these areas and opposed further sprawl or fragmentation of public infrastructure. The policy was seen as promoting economic fairness, social interaction, and environmental efficiency—especially when paired with walkability, local ownership, and quality design.

### **National Planning Framework 4 Policy 28: Support shops in rural areas**

Across all seven games, Policy 28— “Support shops in rural areas”—was discussed in terms of maintaining local access to essential goods and services, sustaining rural communities, and reducing travel emissions. Participants generally agreed that small-scale, locally serving retail is critical for rural viability, but emphasized the need for alignment with rural character and sustainability.

Players viewed rural shops as lifelines for communities—particularly the elderly, those without cars, or families with limited mobility. Access to basic goods like groceries, farm supplies, or fuel was seen as a core element of rural equity.

Several groups pointed out that rural shops serve not just economic, but social functions—providing informal meeting points, maintaining a sense of community, and combating isolation.

Players emphasised that rural retail development should remain ancillary and small-scale—linked to farms, craft production, or local services like fuel or EV charging. This was to preserve the rural character and avoid suburbanisation.

There was enthusiasm for multifunctional rural hubs—for example shops linked to farm shops, cafés, post offices, or shared spaces—that serve both residents and tourists while supporting local producers.

By supporting well-placed local shops, participants saw this policy as helping cut down on long car trips to towns for essentials, contributing to emissions reduction and convenience.

Local rural shops were also framed as part of the community wealth building agenda—keeping money in the local economy and providing rural employment.

In summary, policy 28 was welcomed across all games as an enabler of vibrant, connected rural communities. Players appreciated its focus on shops serving local needs—especially when linked to farms, crafts, or essential services. They stressed the importance of keeping development in scale with the rural environment and avoiding urban-style retail creep. When implemented thoughtfully, this policy was seen as supporting environmental goals, social cohesion, and rural resilience.

### **National Planning Framework 4 Policy 29: Support sustainable rural development and communities**

Across all seven games, Policy 29— “Support sustainable rural development and communities”—was discussed as a crucial enabler of rural resilience, social inclusion, and long-term viability. Participants broadly supported the principle, often connecting it to rural economic revitalisation, affordable housing, community facilities, and sustainable transport.

Players repeatedly noted that without sensitive, well-located development, rural communities risk declines due to depopulation, ageing residents, and loss of

services. Small-scale, community-driven development was seen to maintain village life and cohesion.

Many discussions linked sustainable rural development to accessible housing for young people, key workers, and families. There was also support for policies that encourage local jobs (for example in agriculture, renewables, tourism, or remote work), allowing people to live and work locally.

While supporting development, players emphasised that rural character, natural landscapes, and biodiversity must not be undermined. Many groups advocated for design codes, scale restrictions, and location criteria to guide development sensitively.

There was concern about car dependency in rural areas. Players highlighted the importance of ensuring that new rural development includes access to public or shared transport options, or better links to nearby service centres.

Several groups stressed the importance of involving residents in shaping rural development, including through community land trusts, cooperative housing, or local planning forums.

Beyond economics, participants saw rural sustainability as about inclusion—ensuring communities welcome a mix of ages, incomes, and backgrounds, with amenities to support them.

In summary, policy 29 received strong support across all groups. Players viewed it as a key policy for rural vitality, tied to many others including housing (Policy 16), transport (Policy 13), and business use (Policy 26). The strongest consensus was around supporting small-scale, locally driven development that sustains communities without eroding rural identity or ecosystems. A recurring theme was the need to balance growth with stewardship—ensuring rural areas remain liveable, resilient, and socially diverse.

#### **National Planning Framework 4 Policy 30: Support sustainable tourist facilities and accommodation**

Across all seven games, Policy 30—“Support sustainable tourist facilities and accommodation”—was discussed in relation to balancing tourism’s economic benefits with community needs, infrastructure pressures, and environmental protection. While participants welcomed tourism as a revenue and employment generator, they emphasised the importance of regulating its scale, location, and type.

Players widely recognised the economic contribution of tourism, especially in rural or under-resourced areas. It was seen as a way to bring jobs, attract investment, and support small businesses (for example, cafés, shops, guides, artisans).

There was concern that unregulated or large-scale tourist development could overwhelm infrastructure, raise property prices, or alter community character—especially in small towns or island locations. Several groups advocated for limits on short-term lets and a focus on locally owned or community-led tourism ventures.

Most groups stressed the importance of siting new tourist developments carefully. Proximity to public transport, walking and cycling routes, and existing service centres were seen as important criteria. There was strong support for planning to prevent over-tourism in fragile or high-traffic natural areas.

Groups supported developments that used low-impact materials, reused existing buildings (for example converting barns or inns), or incorporated sustainable design principles. Eco-tourism models and small-scale retreats were mentioned favourably.

Some groups expressed support for a variety of tourist facilities—not just traditional hotels, but also cultural centres, local markets, trails, and heritage experiences that enrich both tourist and resident experiences.

There was consensus that tourism infrastructure should not be lost without clear evidence of lack of viability. Some players wanted stronger enforcement to prevent conversion of tourism assets into second homes or private rentals.

In summary, policy 30 was seen as essential for sustaining rural and regional economies, but only if implemented thoughtfully. Players supported new or extended tourist developments where they were aligned with community values, scaled appropriately, and located in areas that could accommodate them. Community ownership, environmental stewardship, and integrated planning emerged as guiding principles. The overarching theme was “tourism that fits”—with people, place, and planet.

#### **National Planning Framework 4 Policy 31: Protect cultural venues, require public art**

Across all seven games, discussions of Policy 31— “Protect cultural venues, require public art”—were relatively limited but showed consistent underlying support for the cultural and social value of arts in communities. Participants recognised cultural infrastructure as essential to place identity, social cohesion, and economic regeneration, particularly in underused or transitional areas.

Players saw arts and cultural venues—such as theatres, music halls, and galleries—as essential to making places vibrant, inclusive, and attractive. There was appreciation for their role in fostering local pride and community interaction, especially in town centres and high streets.

Several groups emphasised the risk of losing important community assets to redevelopment or gentrification. There was agreement that existing cultural venues

should be protected unless clearly no longer viable. Players stressed that ‘viability’ should be assessed through community consultation, not just commercial metrics.

Most participants welcomed the idea of requiring public art in new developments. They viewed it as a low-cost but high-impact way to create more welcoming and distinctive places. Players mentioned sculptures, murals, and creative landscaping as desirable forms.

A few participants noted that art requirements must not be superficial or box-ticking. Instead, they should reflect local history, identity, and aspirations—ideally co-produced with communities and artists.

There was strong support for temporary cultural uses of empty buildings. Players cited examples like pop-up galleries, studios, or performance spaces as ways to reduce vacancy blight while supporting creative sectors and young people.

Some groups wanted simplified planning processes to allow rapid activation of underused spaces for cultural events, especially in town centres or areas needing regeneration.

In summary, while not as heavily discussed as housing or transport, Policy 31 was viewed positively in every game. Players emphasised the social and symbolic power of cultural infrastructure, its ability to revitalize places, and the importance of protecting and nurturing creativity in community life. Public art was championed as a vital—and achievable—tool for place-making and civic pride.

You can also see from the table below the selections and mentions across the seven games. As discussed in the policy discussion analysis, the topics that generated the most discussion did not necessarily correlate with the policies selected. This may be because subjects such as minimising carbon emissions, while perceived as very important, was considered to be achieved by other policies (a correct assumption) which also delivered other benefits such as affordable housing or vibrant town and village centres.

**Table 7. Frequency of selection and mention of individual policies.**

<b>Category</b>	<b>National Planning Framework 4 Policy Number</b>	<b>Policy Title</b>	<b>Number of times selected</b>	<b>Number of times mentioned</b>
Sustainable Places	2	Minimise carbon emissions	1	361
Sustainable Places	3	Protect and strengthen biodiversity	3	21

<b>Category</b>	<b>National Planning Framework 4 Policy Number</b>	<b>Policy Title</b>	<b>Number of times selected</b>	<b>Number of times mentioned</b>
Sustainable Places	4	Protect and restore nature and landscapes	4	5
Sustainable Places	5	Protect carbon-rich soils and peatlands	5	106
Sustainable Places	6	Protect and expand forests, woodland and trees	1	106
Sustainable Places	7	Protect and enhance historic assets	3	20
Sustainable Places	9	Reuse brownfield land and limit greenfield development	1	170
Sustainable Places	11	Support renewable energy	3	9
Sustainable Places	12	Minimise construction waste	0	18
Sustainable Places	13	Prioritise walking, cycling and public transport	0	38
Liveable Places	14	Require well designed places	0	28
Liveable Places	15	Create connected and compact places (local living)	5	511
Liveable Places	16	Require high quality, affordable, diverse and sustainable homes	6	69
Liveable Places	17	Support new rural homes	1	592
Liveable Places	18	Require infrastructure with development	0	33

<b>Category</b>	<b>National Planning Framework 4 Policy Number</b>	<b>Policy Title</b>	<b>Number of times selected</b>	<b>Number of times mentioned</b>
Liveable Places	19	Prioritise natural and passive heating and cooling solutions	0	93
Liveable Places	20	Protect and enhance blue and green infrastructure	1	28
Liveable Places	21	Protect outdoor play, recreation and sport facilities	1	22
Liveable Places	22	Avoid flood risk areas	2	8
Liveable Places	24	Support digital infrastructure	4	22
Liveable Places	23a	Support health and wellbeing uses	6	727
Liveable Places	23b	Protect people and places from harm	2	86
Productive Places	25	Support community wealth building (wellbeing economy)	5	52
Productive Places	26	Support business uses in the right locations	2	102
Productive Places	27	Prioritise town and local centres	7	157
Productive Places	28	Support shops in rural areas	2	31
Productive Places	29	Support sustainable rural development and communities	0	14
Productive Places	30	Support sustainable tourist facilities and accommodation	0	6

<b>Category</b>	<b>National Planning Framework 4 Policy Number</b>	<b>Policy Title</b>	<b>Number of times selected</b>	<b>Number of times mentioned</b>
Productive Places	31	Protect cultural venues, require public art	0	177

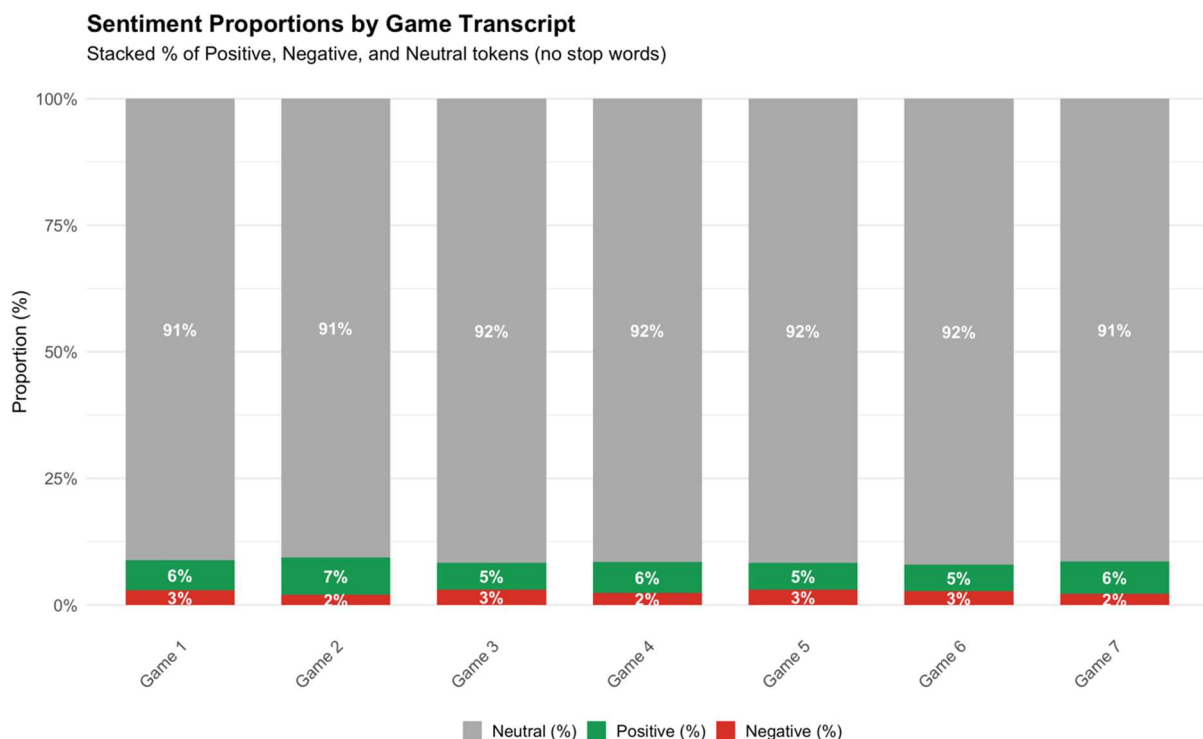
The policies selected by the seven groups, in order of popularity as set out in the following table.

**Table 8. Frequency of selection of individual policies.**

<b>National Planning Framework 4 Policy Number</b>	<b>Policy Title</b>	<b>Number of times selected</b>
27	Prioritise town and local centres	7
16	Require high quality, affordable, diverse and sustainable homes	6
23a	Support health and wellbeing uses	6
25	Support community wealth building (wellbeing economy)	5
5	Protect carbon-rich soils and peatlands	5
15	Create connected and compact places (local living)	5
4	Protect and restore nature and landscapes	4
24	Support digital infrastructure	4
11	Support renewable energy	3
7	Protect and enhance historic assets	3
3	Protect and strengthen biodiversity	3
22	Avoid flood risk areas	2
28	Support shops in rural areas	2
23b	Protect people and places from harm	2
26	Support business uses in the right locations	2
21	Protect outdoor play, recreation and sport facilities	1
20	Protect and enhance blue and green infrastructure	1
6	Protect and expand forests, woodland and trees	1
9	Reuse brownfield land and limit greenfield development	1
2	Minimise carbon emissions	1
17	Support new rural homes	1

## 5 // Sentiment analysis

Across all seven game transcripts (and after filtering out common stop words<sup>6</sup>) participants' language remained overwhelmingly neutral, with roughly 91 – 92% of words (tokens) carrying no clear sentiment. See Figure 5, below. Positive words accounted for about 5 – 7% of the words, while negative words hovered around 2 – 3%, with Game 2 showing the highest positivity rate (7.3 %). These figures underline that the discussions were primarily procedural and information-driven, punctuated by occasional affirmations (for example, “good”, “support”) and infrequent objections or concerns. The consistency across games suggests a stable, collaborative tone, where players focused more on policy substance than on emotionally charged debate.



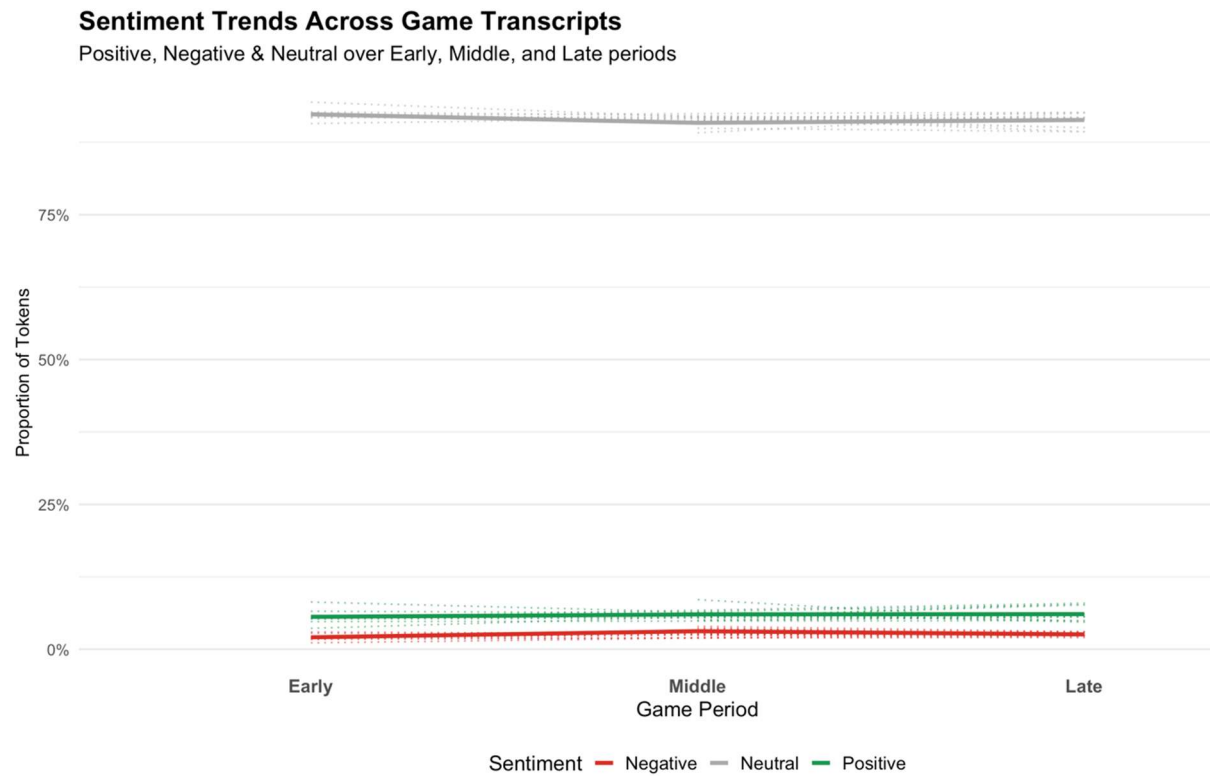
**Figure 5. Sentiment Proportions by Game Transcript.**

### Sentiment at different game play stages

The sentiment trends are remarkably stable across all seven game transcripts when we break the game down into three phases: early game, middle game and late game (see Figure 6). **Neutral language** (grey) dominates throughout—hovering around 90 % in every early, middle, and late period—reflecting the highly procedural, information-driven nature of the discussions. **Positive sentiment** (green)

<sup>6</sup> Stop words are common words that are usually filtered out before analysis because they carries little meaningful content on its own. Examples in English include “the,” “and,” “is,” “in,” “at,” “of,” “to,” “you,” and “that.”

consistently outstrips **negative sentiment** (red), each drifting only slightly over time: positive rises a bit into the middle rounds (perhaps as players evaluated and celebrated policy choices) before levelling off, while negative remains very low (around 5 % or less) with a minor uptick mid-game. The dotted lines show that individual games vary modestly, but the thick average lines confirm that the overall emotional tone remains overwhelmingly neutral, with just a touch more positive than negative language and little change as the game progresses.



**Figure 6. Sentiment Trends Across Game Transcripts**

## 6 // General themes

We took the seven game transcripts and turned each into a structured dataset, breaking the text into individual words (and two-word phrases), filtering out common stop-words and filler terms, and down-weighting any word that appeared everywhere. We then used a statistical method called Latent Dirichlet Allocation to discover clusters of terms that tend to co-occur—what we call “topics”—without telling the model in advance what themes to look for. Finally, we labelled each topic by its most distinctive words (for example, “ecology,” “town centres,” “scoring”) and visualised the results in a six-panel chart (see Figure 7, below), giving a data-driven map of the **hidden** (i.e., latent) conversation themes that emerged across all the games.

After tuning the model to six topics and pruning out both common stop-words and frequency terms, the Latent Dirichlet Allocation clearly surfaces six coherent themes that map directly onto game debates:

**Nature and ecology:** Dominated by terms like “ecology,” “trees,” “biodiversity,” and “woodland,” this topic captures participants’ detailed discussion of ecological restoration and landscape protection—especially in games where “Protect and restore nature and landscapes” was a top policy.

**Homes and communities:** With “town centres,” “community ownership,” “development must,” and “community wealth” as its hallmarks, this theme reflects the intertwined priorities of affordable housing, vibrant local hubs, and community land trusts—precisely the debates that drove decisions in two of the games.

**Transport and access:** Featuring “buses,” “public,” “prioritise,” and “drive,” alongside a dash of “biodiversity,” this topic corresponds to the rounds where groups wrestled with cycle routes versus bus services and the National Park’s role in accessible networks.

**Heritage and well-being:** Terms such as “cultural heritage,” “physical health,” and “high quality” signal one game’s vigorous heritage-vs-ecology debate, and a broader push for health-enhancing amenities in every development.

**Game mechanics:** With “scoring,” “rationale,” “policy card,” and “council,” this theme encapsulates the game play discussion such as Otter rounds, plus/minus scoring and tie-break votes—underlining how the game process design shaped deliberation.

**Governance and services:** Anchored by “community ownership,” “national park,” “council,” and “school,” this topic highlights participants’ questions about policy levers, inter-agency roles and service provision—echoing concerns about the Park Authority’s reach versus local councils.

## Top 10 Distinctive Terms for Each LDA Topic



Figure 7. Hidden themes

Together, these six topics demonstrate that the gamified format not only elicited consistent priority areas (housing, economy, transport, environment, heritage) but also embedded a rich procedural and governance dialogue, revealing both **what** players value and **how** they negotiated trade-offs through structured play.

### **Wildcards (blank cards)**

Though rarely used, wildcards empowered players to propose missing policies—food production, special-let allocations, or mental-health support—further tailoring the package to local needs.

### **Specific place discussions**

Although not required by the game, players did discuss the places they knew as examples when discussing the goals and policies. This is a summary of those discussions:

#### **Grantown-on-Spey**

**Sports facilities:** There were concerns about the lack of local sports facilities in Grantown, which forces children to travel to other towns for activities like football, shinty, hockey, and rugby.

**Renewable energy:** Renewable energy projects, such as the Berry Burn Community Fund, were praised for their environmental and economic benefits. A participant called for more initiatives that support sustainability while benefiting the community.

**Business space:** Challenges were reported in finding suitable and affordable premises for small businesses in Grantown.

**Transport and the town centre:** Improving public transport—especially for older residents—was seen as a priority. There was also support for enhancing town centres with leisure, cultural, and health facilities to improve quality of life, community appeal and increase the attractiveness and liveability of Grantown.

**Empty shops and housing:** Concern was raised about empty retail units and a shortage of housing, particularly near the former Grandview Nursing Home.

**Tourism:** Staffing shortages in tourism and service sectors around Grantown and Newtonmore were noted. These gaps reduce the quality of visitor experiences and make the area feel less lively compared to destinations like Aviemore.

#### **Aviemore**

**Community and housing:** One participant stated that Aviemore is under pressure from increasing visitor numbers, which is straining infrastructure and centralising services. Planning issues have led some locals to move to nearby villages, despite affordability not being an issue.

**Heritage and development:** A concern was raised about the lack of preservation of cultural heritage indicated by the demolition of historic houses in Aviemore which conflicts with the goals of protecting and enhancing historic assets.

**Transportation:** Transport was a recurring issue. Long commutes and limited bus services from Aviemore were noted, despite improvements to bus services. In addition, objections to a development in Aviemore due to noise and pollution concerns was reported.

**Education:** Plans to merge schools and build a large central school in Aviemore have sparked worries about community impact and access to education for surrounding areas.

**General development:** There was a strong call to avoid past planning mistakes. Residents want development that protects air quality, reduces noise, and supports overall community wellbeing.

## **Kingussie**

**Local character and amenities:** Kingussie was positively described by one participant who noted the appeal of local properties and developments, suggesting a welcoming and attractive environment. The town was also highlighted as a cycling hub, aligning with sustainable transport goals and promoting active travel.

**Transport and access:** Logistical challenges for families in Kingussie and nearby settlements, particularly around transport and access, were noted.

**Housing development:** A housing project by the Highland Housing Alliance was mentioned, reflecting efforts to provide affordable, high-quality homes. However, there are concerns that current developments may still fall short of meeting local housing needs.

**Town centre and services:** Recent developments, including a new hotel, were seen as positive steps in supporting Kingussie's town centre and boosting local wealth. At the same time, concerns were expressed about the sustainability of visitor services and availability of staff, which affect the vibrancy of the local economy.

## **Newtonmore**

**Housing:** Concerns were raised about the scale and design of new housing in Newtonmore. Some residents felt developments were too large or cramped by local standards, even if they might seem modest to outsiders. There were also discussions about the need for more affordable and mixed-tenure housing to meet local needs.

**Environmental and cultural concerns:** There were worries about the environmental impact of development in a National Park setting. At the same time, opportunities for cultural engagement were noted, such as creating outdoor spaces for children and learning near the local folk museum.

## Carrbridge

**Transport and access:** Transport issues were a major concern in Carr-bridge. Participants noted limited access to local buses, unreliable train services, and challenges for those unable to walk or cycle. Suggestions included improving bus frequency and connectivity to support both residents and visitors.

**Housing quality:** Recent housing developments in Carrbridge were criticised for being too small and poorly planned.

**Cycling and leisure access:** Starting cycling routes from Carrbridge was described as logistically difficult, with calls for more transport options to support leisure activities.

**Public transport improvements:** While free travel through Young Scot cards was seen as a positive step, there were still concerns about the reliability of bus services in and around Carrbridge.

## Nethy Bridge

**Digital connectivity:** Poor digital infrastructure in Nethy Bridge was highlighted as a major concern, particularly for supporting local businesses and residents.

## Boat of Garten

**Community services:** The local post office was highlighted as a vital part of community infrastructure, especially for older residents who rely on it for both services and social interaction.

## Cromdale

**Community cohesion:** Cromdale was described negatively by one participant. Concerns were raised about the ability to purchase basic necessities, with the village having no shop, and the effect of this on community cohesion.

**Transport and Accessibility:** Transport access was seen a key issue in Cromdale, especially for non-drivers needing to shop or access services. Anecdotes highlighted the challenges faced by residents in meeting basic needs, pointing to gaps in public transport and local amenities.

## Kincraig

**Housing Development:** Views on new housing developments in Kincraig were mixed. One participant felt the properties were overpriced, while another noted they were more affordable compared to developments elsewhere. The variety of housing types was seen as a positive step toward meeting different community needs.

**Visitor Services and Staffing:** Concern was raised about the limited availability of employees in Kincraig, which has reduced the range of services available to visitors.

This was seen as negatively affecting the village's atmosphere compared to more vibrant areas.

### **Dulnain Bridge**

**Community Viability:** A participant noted that small population size makes it difficult for communities such as Dulnain Bridge to fund and sustain community-led projects.

**Transport and Accessibility:** Transport issues were also raised, particularly the unreliability and lack of bus services. These challenges affect residents' ability to access essential services and contribute to broader concerns about connectivity and wellbeing in rural parts of the National Park.

## 7 // References

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