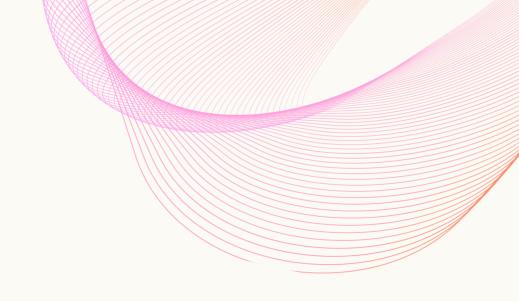
REGEN

Summary Report

Community engagement insights and feasibility process learnings

Insights and key learnings from the detailed community engagement strategy and feasibility assessment process from the REACH project's Alpha phase

MAY 2025



About Sponsor

This project is funded by network users and consumers under the Strategic Innovation Fund (SIF) – an Ofgem programme managed in partnership with UKRI.

About Regen

Regen provides independent, evidence-led insight and advice in support of our mission to transform the UK's energy system for a net zero future. We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

Acknowledgements

We would like to express our sincere appreciation to all those who contributed to the successful completion of this report. This work benefited greatly from the support and assistance of many individuals and organisations, including:

- The seven community energy groups that participated in the Alpha phase
- Laurence Hunter, Nicholas Jane and Mathew Pope, National Grid Electricity Distribution
- James Wale, VEPOD
- Hannah Berry, James Manson and Mathew Osborn, Passiv
- Gary Swandells, Smart Grid Consultancy.

This report was sponsored by Strategic Innovation Fund (SIF)

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i

Version May 28 2025

Contents

1 Introduction	3
2 Community engagement summary	4
Discovery phase	4
Alpha phase	5
3 Learning from detailed engagement	7
Interviews and selection process insights	7
Site visits insights	9
4 Learnings from partner analysis	12
National Grid Electricity Distribution	12
VEPOD	13
Passiv	15
5 Overall learnings from detailed engagement	19
The value of intermediary organisations	19
Streamlining contractual processes	20
Fair and appropriate compensation	20
Communicating challenging outcomes	22
6 Conclusion and key recommendations	24
Summary of key learnings	24
Recommended Beta engagement approach	25

1

Introduction

Building effective community-technical partnerships for rural energy transitions

The Rural Energy and Community Heat (REACH) project recognises that addressing rural energy challenges requires innovative technical solutions and meaningful community partnerships. This report documents our community engagement journey, focusing primarily on the insights from Alpha, where we selected and worked with communities on feasibility assessment and site evaluation.

Throughout the Alpha phase, we engaged with seven diverse community groups before conducting detailed feasibility studies with two selected communities: Awel Aman Tawe, Wales, and Bigbury Net Zero, England. This progressive engagement process revealed crucial insights about community capacity, technical requirements and factors that may support more successful partnerships. By analysing the technical findings from partners like National Grid Electricity Distribution (NGED), Passiv and VEPOD, we've identified how these translate into practical community engagement approaches and more impactful collaboration.

The lessons captured in this report provide a structured framework for further engagement in the Beta phase, if applicable. The recommendations address key elements of effective engagement, including communication strategies, contractual arrangements, fair compensation models and integration of community knowledge into technical planning. These insights will help ensure that future partnerships deliver technically viable solutions and meaningful community benefits, ultimately creating rural energy transitions that are equitable, sustainable and responsive to local contexts.

2

Community engagement summary

The engagement methodology used in the Discovery and Alpha stages

Rural communities across the UK will likely face significant barriers to clean energy adoption due to grid constraints, particularly as the demand for electric vehicles and heat pumps increases. The REACH project addresses this challenge by developing innovative technical solutions in partnership with affected communities. To ensure our approach was both technically sound and responsive to community needs, we implemented a rigorous multi-stage engagement and selection process. This methodology helped identify suitable community partners, build trust, establish relationships and gather crucial contextual information to inform our technical work.

Discovery phase

During the initial Discovery phase of the REACH project, we implemented a structured three-stage engagement process to identify potential community partners:

- Expression of interest: We used an online form to collect basic information from 82 interested communities. This helped us tailor subsequent engagement activities to their needs and contexts.
- **Community workshop:** We hosted a substantial engagement event attended by 73 community stakeholders. It featured breakout discussions, inspirational case studies and technical presentations from project partners, including Kensa, VEPOD and NGED.
- **Detailed questionnaire:** A total of 32 communities submitted comprehensive information about their specific plans, locations, community engagement levels and technological requirements, providing crucial data for our shortlisting process.

Alpha phase

We selected seven promising communities for the Alpha phase, based on the outcomes of the Discovery phase.

Initial selection

To select two communities to move forward to feasibility studies, the first step of the Alpha phase was a comprehensive suitability assessment, which included:

- In-depth interviews: Regen conducted structured 90-minute interviews with each community to explore their readiness for energy infrastructure. The interviews gathered updates on local initiatives, evaluated potential sites for development, explored perspectives on heat decarbonisation and assessed organisational capacity for project implementation
- **Site evaluation:** Project partners assessed potential locations for energy infrastructure within each community, examining factors like land ownership, access requirements and planning considerations
- **Technical assessment:** Project partners evaluated each community's network constraints, reinforcement needs and suitability for proposed low-carbon technologies.

The interviews, site evaluation and technical assessment provided the foundation for a rigorous selection process. Building on this data, the project partners engaged in an in-depth collaborative discussion to identify the two most suitable communities for a full feasibility assessment.

The team unanimously selected Awel Aman Tawe (Wales) and Bigbury Net Zero (England) to progress to full feasibility. These communities offered complementary characteristics. Awel Aman Tawe brought professional experience in community energy, with established energy projects, community-owned assets and significant network constraints. Despite having less experience in energy generation, Bigbury Net Zero represented a group with strong local ambition and enthusiasm for low-carbon initiatives. Both communities also benefit from multiple viable energy centre locations with good landowner relationships. Additionally, as a coastal community with seasonal tourism patterns and associated demand variability - a pattern commonly seen across NGED's network - Bigbury Net Zero also represented a distinct use case. This selection allowed the project to explore diverse community models with significant network intervention costs while ensuring good geographical representation across the service area.

Feasibility studies

Following the selection of Awel Aman Tawe and Bigbury Net Zero, we conducted comprehensive feasibility studies to evaluate the viability of implementing community energy solutions in these locations.

Analysis from partners

Technical feasibility studies were conducted for both selected communities:

- NGED conducted a network assessment for the local high-voltage grid to determine current and projected network capacity and constraints.
- VEPOD conducted a detailed technical and economic analysis of energy centre viability
- **Passiv** analysed the potential for coordinated heat pump management to reduce peak demand.

Site visits

Site visits complemented the technical analysis and were a crucial component of our approach. These in-person assessments allowed project partners to meet community leaders face-to-face and gain firsthand experience of the local environment and infrastructure. This direct interaction provided valuable context that technical assessments alone could not capture, strengthening relationships with community stakeholders and offering practical insights into potential challenges and opportunities not apparent from data analysis. For detailed lessons from these visits, see section 3.

From community outreach to targeted feasibility assessment

Community engagement was essential throughout the REACH project, helping create energy transitions that were both technically sound and appropriate for each local context. The following sections explore key insights from our site visits and highlight learnings from the technical analyses critical to continued engagement in the REACH project.

Learning from detailed engagement

Key insights from the structured interviews and site visits

Our in-depth work with communities throughout the Alpha phase yielded significant insights about effective engagement approaches and practical considerations for implementing solutions in rural areas. This section explores key learnings from two critical aspects of our engagement process: the structured interviews that informed our community selection and the site visits that deepened our understanding of local contexts.

These engagement activities went beyond technical assessment, revealing critical human dimensions that shape successful energy transitions. From addressing fair compensation expectations to understanding aesthetic concerns in National Landscapes areas, our interactions illuminated the nuanced relationships between technical solutions and community priorities. The insights gathered through these engagements refine our selection criteria for identifying suitable community partners and provide valuable guidance on building collaborative relationships that can withstand the challenges of complex innovation projects.

Interviews and selection process insights

Evolving selection criteria

During the Alpha phase, our selection criteria developed iteratively as we gained a deeper understanding of community needs and technical requirements. While we established initial parameters for community selection, the specific qualities that would make an ideal community partner became clearer as the project progressed (see section 4 on VEPOD's analysis).

For Beta, we should first identify areas that meet the specific needs (such as particular types of grid constraints that REACH is trying to solve) and then recruit communities within those areas, ensuring our detailed engagement process targets the most relevant contexts for testing our solutions.

Value of in-depth interviews in the selection process

A key part of the selection process was in-depth interviews to learn more about the community groups' specific circumstances, organisational capacity, project experience and technological interests. These interviews gave us considerable context on the communities and revealed particular concerns or interests regarding the REACH project. For example, the aesthetics of shipping containers and potential noise were significant concerns in communities located in National Landscapes areas (previously known as Areas of Outstanding Natural Beauty). With more detailed information about the REACH solution, these interviews allowed us to gauge whether the communities themselves would be genuinely interested in participating. This was essential for making informed selection decisions.

Another key finding in the interviews was the varying levels of previous project development experience across the communities, from those with only early-stage concepts for possible initiatives to communities that own and manage renewable generation projects. The interviews helped identify opportunities and potential challenges specific to each location, providing crucial information for the site selection process.

In Beta, interviews such as these would be helpful to engage and learn more about the communities we wish to bring forward.

Value of complementary community characteristics

During the selection process, we recognised that communities with different profiles would provide valuable diversity for testing the REACH solution. Awel Aman Tawe offered professional experience with established energy projects and community assets. At the same time, Bigbury Net Zero represented a community at an earlier stage, with seasonal tourism creating variable demand patterns. This diversity enabled us to evaluate how our technical solutions would perform across different community scenarios and organisational capacities.

For the Beta phase, we recommend continuing this approach, specifically selecting communities that represent the full spectrum of rural communities within NGED's network to ensure comprehensive testing and broader applicability of results.

Respecting community time and expertise

Early in the Alpha phase, some community partners expressed concerns about the established compensation rates for their participation. While these rates had been agreed at the end of the Discovery phase and were set within Innovate UK's funding framework, we recognised the importance of addressing these concerns constructively. We responded by being clear and transparent about time expectations, ensuring we respected the boundaries of allocated hours. This approach helped strengthen trust with our community partners as the project progressed.

Regen - May 2025

8

For the Beta phase, we recommend proactively discussing compensation expectations with community groups early in the engagement process, while working within Innovate UK's established framework, to create transparent compensation terms that value community contributions. Clear communication about time commitments and compensation from the outset will foster more effective partnerships throughout the project lifecycle, as was found in this process.

Site visits insights

We gained valuable insights during our site visits to Awel Aman Tawe and Bigbury Net Zero. These experiences highlighted several vital aspects of community engagement in energy transition projects.

Technical benefits

Site visits provided crucial practical information for our technical partners:

- Physical context assessment: Visits allowed technical partners to properly evaluate
 potential locations for the modular energy centre, which was particularly important for
 VEPOD's design specifications. Understanding the actual dimensions and surrounding
 features of potential sites proved invaluable.
- Identification of local opportunities: In one of the communities, we visited a potential energy centre site adjacent to local authority housing. This presented a possible opportunity for coordinated heat pump installation, which could also help meet specific local authority net-zero targets.
- Housing and socioeconomic insights: Visiting the communities revealed the variety of housing archetypes and socioeconomic differences that weren't apparent from remote analysis, providing important context for technical planning.

Experiencing community initiatives firsthand

In Awel Aman Tawe, we witnessed the community's ongoing work to renovate a former school into a community space, demonstrating their practical commitment to sustainable development. We also visited their community-owned wind farm and learned about their ambitions to expand into solar generation, seeing firsthand the specific location they had identified for this purpose (see Figure 1 and Figure 2).

Figure 1

Community hub construction

Local volunteers collaborating on developing a community centre in Awel Aman Tawe.



Figure 2

Community-owned wind turbines

Renewable energy assets generating local power and economic returns for Awel Aman Tawe community residents.



Relationship building

The site visits significantly strengthened relationships between all stakeholders:

- **Trust development:** In-person engagement builds trust differently than remote communication, with face-to-face interactions creating stronger connections between project partners and community leaders
- **Improved communication:** Having all technical partners and NGED present created alignment and shared understanding, a factor that is sometimes difficult to achieve through separate meetings
- Two-way knowledge exchange: Community groups had the opportunity to ask technical partners questions about various aspects of the project and raise topics of interest. For example, one community expressed interest in whether residents could invest in the technology, an avenue not previously explored by the partners.

Timing considerations

We identified an important tension regarding site visit timing. Firstly, site visits were needed early enough to inform technical planning (such as identifying potential energy centre locations). However, they also needed to occur after narrowing down from seven to two communities, to avoid raising community expectations.

Our decision to conduct site visits in only two of the seven identified communities reflected a strategic and ethical approach. Focusing on communities with the highest likelihood of project advancement prevented us from raising false expectations while respecting community members' time and expertise. While we compensated participants for their time, this doesn't fully account for the expectations created when external partners engage with communities about potential developments.

Recommendations for Beta phase

These site visits were instrumental in building strong relationships with the community groups. However, as in the Alpha phase, these should be conducted only after narrowing down to communities with high potential for successful implementation, where possible.

For the Beta phase, we recommend conducting site visits early in the process with selected communities to ensure alignment of expectations and to gain appreciation for their other community initiatives.

4

Learnings from partner analysis

Engagement lessons from technical findings of NGED, VEPOD and Passiv analysis

National Grid Electricity Distribution

NGED's analysis revealed that communities experiencing constraints in normal and abnormal conditions were the most suitable candidates for the REACH solution. The two communities selected for feasibility studies did not fully align with this criterion, suggesting that beginning the search for suitable community groups with detailed network analysis may be a more effective approach. We recommend that the selection process for communities in the future follow this format:

- 1. Begin with NGED's network analysis to identify areas with appropriate technical challenges
- 2. Map these areas against existing community energy organisations
- 3. Create targeted information materials explaining why specific communities are being approached
- 4. Follow with a tailored engagement process based on the number of potential communities identified (e.g. starting with an event to explain the project, followed by a call for those to submit a detailed questionnaire).

Following the Alpha phase, we now have much greater clarity about the specific network constraints REACH is best positioned to address. We received feedback after our last event that some community groups didn't fully understand what we were looking for during the Discovery phase and felt they could have better demonstrated their suitability had our criteria been more precise. This is a natural challenge in innovation projects, where requirements emerge and crystallise over time.

By providing more transparent information about our technical requirements for Beta, we can help ensure the most appropriate communities recognise their potential fit with the project and come forward, ultimately leading to more effective partnerships.

Building on the insights gained during the Alpha phase, this approach will be further enhanced for the Beta phase, supported by a clearer understanding of the community characteristics that best align with REACH. This targeted approach will provide greater clarity for community groups to understand why they've been selected and how they might benefit, encouraging more meaningful engagement from the outset.

VEPOD

VEPOD's technical assessment provided several critical insights that will be important to consider in the Beta phase.

Proven technical capability

VEPOD's modelling suggested that the REACH energy centre concept may address network constraints identified by NGED. For the two communities selected, this was only in abnormal running conditions. While the two communities were found not to be appropriate for the research solution, this analysis proves the use of this solution in NGED's network constraints more generally.

For Beta phase engagement, VEPOD's modelling results could be positioned as enabling communities to make sustainable choices sooner, rather than waiting for traditional infrastructure upgrades (in certain circumstances – e.g. if constraints occur during normal conditions), and to coordinate community-wide decarbonisation initiatives with greater certainty.

Financial transparency

Understanding project costs is critical for transparency with community partners. Early in the process, community partners expressed an interest in understanding the financial aspects of the REACH solution, especially as there were initial discussions around whether they would be interested in ownership or shared ownership of a project such as this. During site visits, one of the communities also expressed interest in investment opportunities, demonstrating how community groups wanted greater involvement in the project.

As the project progressed, VEPOD's analysis revealed the specific investment required for the energy centre in each selected community: £890,000 for Bigbury Net Zero and £610,000 for Awel Aman Tawe. This information will be sent to the communities in the final reports.

In Beta, financial transparency will be necessary for continued community engagement, as it:

- Builds trust through openness about the economic dimensions
- Enables informed community decision-making about potential involvement, including investment opportunities
- Grounds theoretical discussions in practical reality.

Providing clear financial parameters early in the Beta phase will help establish realistic expectations and allow community groups to better assess their capacity for participation in various ownership models.

Physical requirements and community acceptance

VEPOD's analysis significantly refined the understanding of the spatial requirements. Previous estimates suggested an area equivalent to two tennis courts (including EV charging infrastructure), but the technical assessment indicates a substantially smaller footprint, particularly if EV charging is not required.

This refined spatial understanding directly addresses common community concerns about:

- Visual impact in village centres or sensitive rural landscapes
- Noise pollution from operational equipment
- Land use conflicts with other community priorities.

Developing visual representations of installations' actual size and appearance for the Beta phase engagement will be crucial for broader community engagement.

<u>Previous research</u> in Scotland has showed that engagement in early decision-making is vital for gaining community acceptance of the project. In Beta, this could mean running workshops with the broader community to discuss the placement of the project and bring in ideas on whether they would like it to be hidden and, if so, if they have ideas on how that could be done. For example, addressing aesthetic considerations through landscaping and screening options (as seen with solar fields) may help address concerns that emerged during Alpha phase discussions.

Recommendations for Beta phase engagement

By incorporating these insights from VEPOD's Alpha phase analysis, the Beta phase can utilise technical results to continue supporting genuine community partnerships.

Based on VEPOD's technical analysis, we recommend incorporating visual representations, transparent financial information, and practical considerations into Beta phase community engagement to improve technical fit and ensure the solution reflects local priorities.

These approaches include:

- Developing accurate visual representations of the energy centre installation to address aesthetic concerns
- 2. Creating transparent financial information that helps communities understand costs, benefits and potential ownership structures (as seen at the end of Alpha)
- 3. Integrating practical considerations into discussions with communities early in the process, addressing crucial aspects such as optimal energy centre location, visual impact mitigation through landscaping and screening options and any site-specific constraints that might affect implementation.

Passiv

Passiv's assessment provided several critical insights that would directly influence our community engagement approach during the Beta phase.

Community-led decarbonisation

Passiv's modelling demonstrated that their smart coordination system can reduce peak electricity demand by up to 37% compared to standard heat pump controls during extreme cold weather events. Their approach successfully "flattened" the overall community electricity demand profile while maintaining resident comfort within 0.5°C of desired temperatures - a difference imperceptible to most households.

These results, alongside VEPOD and NGED findings, confirm the viability of coordinated approaches to household decarbonisation in addressing the grid constraints experienced by these communities. The results from this analysis could be of direct interest to communities and individual households.

Community engagement insights and feasibility process learnings

Benefits of coordinating heat decarbonisation

Engagement in heat decarbonisation can be challenging, particularly in marginalised or lower-income areas with limited resources for individual household transitions. Coordinated heat decarbonisation allows community energy groups to engage a wider array of their community by removing some of the common barriers. For example, a coordinated approach can help communities to:

- Hire qualified tradespeople through aggregated demand to ensure consistent installation quality across the community while creating economies of scale – benefits that can be challenging to achieve through piecemeal approaches
- Purchase heat pumps or smart thermostat technology in bulk, potentially yielding cost reductions only achievable through coordinated community procurement
- Enhance community cohesion through collective climate action, where the synchronised implementation of smart controls allows the entire community to function as a unified energy entity
- Leverage coordinated flexibility to participate in energy markets and grid services that individual households cannot access independently.

In Beta, we recommend ensuring communities receive structured guidance and support throughout the engagement process.

Key areas for structured support include:

- Engaging the community effectively on heat decarbonisation, particularly addressing unfamiliarity with smart controls and dispelling common heat pump myths by leveraging technical experts from the project team
- Identifying and vetting trusted, qualified tradespeople who understand both individual installations and community-wide system integration
- Selecting and purchasing heat pumps and smart controls that are high-quality, fit for purpose and compatible with the coordinated control approach demonstrated in Passiv's assessment
- Implementing inclusive engagement strategies that reach all households across different housing types, occupancy patterns and socioeconomic backgrounds
- Developing financial mechanisms and support options to enable participation across income levels, with particular attention to households that cannot afford upfront costs.

Educational opportunities around smart technology

Passiv's assessment also highlights an opportunity to introduce communities to a technology they may be less familiar with: smart controls. This provides a unique educational benefit within the project, allowing communities to learn about and experience the advantages of a coordinated approach to energy management.

Smart control education will be an essential engagement component because:

- It demonstrates tangible benefits for individual households (maintaining comfort while
 potentially reducing energy costs), which can help local leaders overcome resistance to
 heating system changes
- It illustrates how individual actions could contribute to collective community benefits through coordinated load management, while keeping temperatures within 0.5°C of desired setpoints
- It creates opportunities to explore innovative community-benefit models where a portion of energy savings or flexibility payments could flow back into wider community funds.

This educational component could also provide valuable insights into behaviour change motivations: would residents be more motivated to participate in smart energy management when benefits accrue to their household, or when they contribute to community-wide improvements? Understanding these motivational factors could significantly enhance engagement strategies for heat decarbonisation beyond the Beta phase.

Demystifying heat pump technology

Passiv's technical assessment provides crucial validation that most of the community housing stock is suitable for heat pump installation – a finding that countered common concerns about applicability from the community partners. Their detailed modelling of 20 diverse housing archetypes demonstrates that properly sized heat pumps can effectively maintain comfort even during extreme weather events like the 2018 'Beast from the East'.

This technical confirmation offers several distinct advantages for the Beta phase:

- It provides community groups with evidence-based responses to specific technical concerns about heat pump performance in older or diverse housing stock
- It clarifies which heat pump configurations (standard air source, ground source or hybrids with thermal storage) are most appropriate for different property types
- It quantifies the expected performance metrics that households can realistically anticipate, setting appropriate expectations rather than overpromising.

For the Beta phase, we recommend implementing targeted workshops that address specific technical questions rather than general awareness-raising about heat pumps. These specialised sessions would provide communities with the essential, practical information needed to advance implementation efforts.

Key workshop offerings could include:

- Thermal comfort demonstrations: Interactive sessions featuring real performance data from Passiv's modelling, showing how properly controlled heat pumps maintain comfort even during extreme weather conditions while addressing specific concerns about cold homes
- Installer quality standards: Coordination sessions that bring together local tradespeople, residents and technical experts to establish consistent quality benchmarks for community-wide installations and smart control integration.

These technically focused workshops will complement broader community engagement activities by providing the detailed, evidence-based information to bridge the gap between initial interest and confident implementation decisions.

Overall learnings from detailed engagement

The success factors for effective community-technical partnerships

The REACH project's extensive community engagement process has yielded valuable insights that will inform the Beta phase application and broader approaches to community energy partnerships. Drawing from Regen's 15 years of experience working with community energy groups and the project's direct experiences with the community partners involved, we have identified several critical success factors for effective community-technical partnerships.

The value of intermediary organisations

Regen's role as an intermediary between technical partners and communities proved critical throughout the project. This intermediary function:

- Provided communities with a consistent point of contact who could translate technical information into accessible language
- Managed community expectations while technical solutions evolved, preventing misunderstandings or disappointment
- Maintained balanced communication that acknowledged both the exciting potential of solutions and realistic implementation challenges
- Enabled technical partners to focus on development while ensuring communities remained informed and engaged.

For the Beta phase, we recommend continuing this structured intermediary approach, with clear delineation of roles between technical development and community engagement activities. This separation allows each partner to leverage their expertise while ensuring communities receive consistent, accurate information throughout the project journey.

Streamlining contractual processes

The contractual requirements during the Alpha phase created significant barriers to community participation. Following Innovate UK guidelines, communities were required to agree to the terms of the main client contract – a lengthy, detailed document which was ill-suited for community engagement. Several community groups nearly withdrew from the project due to concerns about liability under these terms, and considerable intermediary time was spent reassuring communities about the contractual implications. This experience highlighted that, rather than using Regen's standard subcontractor agreement, a tailored short-form agreement would have been more appropriate given the communities' limited role in the project.

For Beta, we recommend creating simplified agreements designed explicitly for community partners that still meet Innovate UK requirements. For instance, where possible, a tailored short-form agreement should be used in place of Regen's standard subcontractor agreement, offering appropriate protections without unnecessary complexity. As was successful in Alpha, contractual relationships should be set at the outset of long-term engagement to prevent expectation shifts.

Fair and appropriate compensation

Our experience highlighted the critical importance of fair and transparent compensation for community participation. Community groups' knowledge, networks and time are valuable resources that deserve proper recognition and remuneration.

During the Alpha phase, compensation challenges emerged as a significant consideration:

- Varying professional experience: Newer community energy groups, while equally
 committed, didn't tend to have established compensation frameworks. However, some
 established community energy organisations operated with professional staffing
 structures and standardised day rates that reflected their expertise and operational
 costs. When our initial compensation rates fell below these high-capacity community
 group expectations, additional negotiation and trust-building were required.
- **Contractual complexity:** As discussed above, the formal contractual process required by Innovate UK created a significant administrative burden for community groups, requiring them to review complex legal documents disproportionate to their involvement level.

These challenges highlighted an essential consideration for innovation projects more generally. While we provided compensation for community partners, which was agreed upon with them at the end of the Discovery phase, established community energy organisations increasingly operate as professional groups with standardised rates.

The key to our success at this stage was setting expectations early by communicating clearly and often about the limited scope of the communities' involvement. However, for the Beta phase, where community involvement may need to be more extensive, we must carefully define roles and appropriate compensation structures from the outset.

In Beta, we recommend a comprehensive approach to compensation that includes community benchmarking against industry standards, comprehensive budget planning with significantly increased allocation for community involvement, role transparency through detailed descriptions of contributions and time commitments and explicit value recognition of community groups as essential partners rather than mere beneficiaries.

This comprehensive approach consists of four key elements:

- Community benchmarking: Consult with experienced community organisations and support organisations (e.g. Community Energy England/Wales) to establish compensation rates that align with industry standards for community energy professionals
- Comprehensive budget planning: Allocate significantly more budget for community involvement in the Beta phase, particularly as communities may take on expanded roles in data collection, local engagement activities and technical feedback loops essential for project success
- Role transparency: As much as possible, create detailed role descriptions that clearly
 outline expected community contributions, estimated time commitments and
 associated compensation before engagement begins. This transparency will help
 communities make informed decisions about their capacity to participate. However, we
 acknowledge that as this is an innovation project, it may not be straightforward.
- Value recognition: Acknowledge explicitly in project materials and communications that community groups are not merely beneficiaries but essential partners whose expertise and local knowledge are fundamental to the project's success.

This approach recognises that meaningful community involvement requires proper resourcing and that fair compensation is essential for building sustainable, equitable partnerships.

Communicating challenging outcomes

One challenge in the community engagement process was delivering bad news. From narrowing from seven communities to two, to determining that the REACH solution wasn't optimally suited even for our selected communities, we developed practical approaches to difficult communications.

Early and consistent communication

Key successes:

- Establishing clear project parameters and selection criteria from the outset
- Explaining the staged process before communities commit resources (*initial* assessment → feasibility study → possible implementation, if successful in Beta)
- Communicating precise timelines for decision points and feedback opportunities, where possible
- Providing regular updates throughout the process, even when there was no substantial news to share.

A key challenge was that community members inevitably became highly invested in potential outcomes, which made delivering negative news more difficult. However, by setting clear expectations from the beginning, disappointment was managed more effectively than it would have been otherwise.

Honesty about feasibility at all stages

Key successes:

- Maintaining transparency that the proposed solution might not work in any community
- Conducting regular reality checks throughout the feasibility process
- Emphasising that the goal was finding the right solution for each community, not forcing a predetermined outcome.

A key challenge was that even with the two communities that advanced to the feasibility stage, we ultimately had to communicate that the REACH solution wasn't suited to their needs. As we maintained honesty about this possibility throughout the process, the communities were understanding, despite their natural disappointment.

Value-added approach for all participants

Key successes:

- Ensuring that every community received tangible benefits from participation, including assessment reports for all seven communities and payment for their time
- Framing the process as a learning opportunity rather than a resource competition.

The challenge we faced was ensuring that the assessment reports provided genuine value rather than merely symbolic participation recognition. Communities needed insights, recommendations and data that could be useful for their local initiatives even without REACH implementation.

Conclusion and key recommendations

Summary of the key learnings and recommendations for Beta

The REACH project's Alpha phase has provided valuable insights that will significantly strengthen our approach to the Beta phase. Through our engagement with seven communities and in-depth work with Awel Aman Tawe and Bigbury Net Zero, we have developed a nuanced understanding of how technical solutions and community needs must align for successful rural energy transitions.

Summary of key learnings

Our experience revealed several critical success factors:

- **Technical-community alignment:** The most suitable communities for the REACH solution should have specific technical characteristics (constraints in both normal and abnormal network conditions) that must be identified from the outset
- Diversity in community partners: Working with communities with different characteristics and with varying energy demands provided essential insights into how the REACH solution performs across different contexts
- **Transparency and communication:** Open, honest dialogue about project potential, limitations and outcomes built trust that transcended individual project outcomes
- Appropriate contractual frameworks: Simplified agreements tailored to community needs will facilitate more productive partnerships
- **Fair compensation:** Recognising the professional standing of community energy organisations requires appropriate remuneration for their expertise and time
- Value of intermediaries: Having dedicated partners to bridge technical and community perspectives enables effective communication and expectation management.

Recommended Beta engagement approach

Based on our Alpha phase experience, we recommend the following structured process for the Beta phase:

Stage 1: Technical-led identification

- 1. Begin with NGED's network analysis to identify areas with both intact and abnormal network constraints
- 2. Map these constrained areas against existing community energy organisations
- 3. Prepare targeted information materials explaining why specific communities are being approached.

Stage 2: Community selection and engagement

- 1. Engage and host a focused information event for pre-identified communities
- 2. Establish transparent selection criteria and processes through which communities can engage in
- 3. Once communities are selected, implement simplified contractual processes explicitly designed for community partners
- 4. Set fair compensation frameworks that recognise the professional nature of community energy organisations.

Stage 3: Technical integration

- 1. Conduct early site visits with selected communities after initial screening
- 2. Support the community organisations in engaging their wider community on the REACH project. For example, consider:
 - Running workshops with the broader community to discuss the importance of the project and what it means for them
 - Have the communities participate in the layout of the project, aided by visual representations of energy centre installations to help address aesthetic and noise concerns
 - Facilitate targeted workshops on heat pump technology and smart controls, as many communities may be new to this technology.
- 3. Create transparent financial information about costs, benefits and potential ownership models.

Stage 4: Implementation and knowledge sharing

- 1. Provide valuable insights to all participating communities
- 2. Provide alternative recommendations for communities that are not suited for the REACH solution
- 3. Maintain long-term relationships for future collaboration opportunities.

The Alpha phase has fundamentally strengthened the REACH project. By applying these learnings to the Beta phase, we can develop technically viable energy solutions that embrace community priorities, creating more sustainable and equitable rural energy transitions.



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