

# EMPOWER2.0

## Country Roadmaps for Citizen Energy Production, version 2.0



With the financial support of

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# 1. Introduction

EMPOWER2.0 is an Interreg North Seas Region project which aims to demonstrate and accelerate the empowerment of citizens to become active energy citizens (“prosumers”). Citizens will be facilitated to become prosumers by:

- Creating local energy communities via existing civil society structures
- Developing new, for example, organisational solutions
- Adopting new, emerging and existing solutions for energy ownership.

This will lead to an increase of energy awareness and renewable energy production, and hence reduce the environmental footprint in the North Sea Region. The project involves 14 partners, led by Gemeente Zaanstad (NL). These include 7 cities, provinces or intermunicipal organisations, 3 co-operatives, 3 universities and one company, spanning the Netherlands, Belgium, Denmark and UK.

This report extends EMPOWER2.0’s WP6 deliverable on Country Roadmaps for Citizen Energy Production. It describes generic models of prosumer pains, gains and value propositions that were developed through analysis of the literature reviews, piloting activities and primary consumer research conducted during the course of the project. This analysis was consolidated via a series of cross-WP workshops, and then used to frame possible organisational support models that could be used to deliver these prosumer propositions. The report then assesses the support structures currently available within the partners’ nations, and hence presents potential roadmaps for these nations to better support prosumer engagement with the energy transition.

Chapter 2 summarises our key findings and recommendations.

Chapter 3 outlines the method used to develop these findings.

Chapter 4 gives more detail on the generic prosumer models (prosumer journey, pains and gains) developed during the project.

Chapter 5 describes the prosumer personas and propositions the EMPOWER2.0 partners developed to address these pains and gains.

Chapter 6 summarises the results of consumer research we conducted to test these prosumer models and propositions.

Chapter 7 describes potential business models for organisations to support delivery of these value propositions to prosumers and communities. It then develops a model for an integrated National Advisory Service to support development of prosumerism in each nation.

Chapter 8 identifies existing national organisations within the EMPOWER2.0 nations that might support this integrated service model, and discusses potential gaps in their existing support for prosumers. It then identifies key issues each nation might need to address in order to establish an integrated National Advisory Service to better support empowerment of prosumers.

## 2. Executive Summary

EMPOWER2.0 conducted a combination of literature reviews, consumer research and hands-on pilots to assess the benefits people seek in becoming prosumers and the barriers they experience along this journey. This identified that people are interested in three broad classes of benefit:

- 1) **Environmental:** To improve both the external environment (e.g. reduce CO2 emissions, improve air quality) and internal environment of their homes (e.g. improve comfort).
- 2) **Financial:** To save money on energy costs, and to enhance the value of their homes.
- 3) **Social:** To improve their sense of control over their lives; to learn more about the energy system; to build more resilient and cohesive local communities.

The barriers they experience on this journey also fall into three broad classes:

- 1) **Technical:** Complexity (in the structure of the energy system, in the range of options available, and in the technical details of those options) is an enormous barrier. People may also find that their homes simply aren't suitable for certain solutions.
- 2) **Financial:** People may lack money to invest in appropriate equipment. Even if they have funds, uncertainty in the payback may prevent them investing. And even if they do buy equipment, the structure of energy markets may make it difficult for them to gain full return for their investment.
- 3) **Social:** People struggle to find trustworthy advice and support. They may also be uncertain about the social acceptance of their neighbours and community when they adopt new technologies, some of which can be highly visible.

To investigate these benefits and barriers and explore ways to reduce the barriers, we developed six personas for potential prosumers, each with an associated value proposition and business model for an organisation to deliver the support they need:

- **Starting the Journey:** People cannot become prosumers if they aren't aware of the possibilities, or find the range of options too overwhelming to engage with. People of all types and in all lifestages need access to clear, understandable information and trusted advice on what options are relevant to them.
- **Homebuilders:** People at an early stage in their lives, with young families. With tight finances and many demands on their time, they need targeted advice and access to financial support. They care about the environment they are creating for their children, both in the home and in the wider world, but must focus first on managing their finances.
- **Environmental Champions:** Later in life, when people have paid off their home and their children have left, people may be less focused on time and money, and more concerned about the environment they will pass on to their children and grandchildren. Financial support may be less of a concern, but access to clear information, advice and support from their community is key to their becoming prosumers.

- **Community Builders:** For some people, the desire to strengthen their local community is a primary driver. They care about the environment and need adequate finances, but it is the community which leads their concerns. They need a clear route to engage with like-minded people, and clear signposts to the support which might be available.
- **Apartment Dwellers:** People who live in multi-tenanted blocks have unique concerns – they must coordinate with their neighbours, and with their landlords if they rent their apartment, in order to undertake many prosumer activities. They need support to do this coordination, including access to information materials and suitable group financing schemes.
- **People in Fuel Poverty:** For these people, reducing their energy costs is paramount. They need focused, trustworthy advice and easy access to appropriate finance.

From these six personas and their associated business models, we developed a model for an integrated National Advisory Service to support development of prosumerism in each nation. This model shows a 3-tier structure for the service:

- A **central core** to coordinate the service, identify and package potential solutions for prosumers, provide policy advice to government and other agencies, and deliver well-structured communication campaigns to raise awareness of prosumerism. This core also coordinates two networks of external partners to support prosumers directly.
- A **“close network”** of environmental champions, community hubs and renovation coaches to respectively inspire potential prosumers, provide a local presence to support them, and help them undertake practical projects to improve their homes. This would be closely linked to the national core, providing independent, trustworthy advice to all prosumers.
- A **commercial network** of advisors, financial institutions and equipment supply chains (e.g. for equipment manufacture, installation and maintenance), to build and deliver solutions for prosumers. These would be commercial organisations, independent of the National Advisory Service but possibly accredited by it in order to help build prosumer confidence and trust.

Each of the EMPOWER2.0 nations already has some structures in place which could support such a model, but they tend to be spread across multiple organisations, several layers of government and between public, private and NGO bodies. This adds to the complexity people must deal with in embarking on the journey to become prosumers. Given that complexity is already a major pain point for prosumers, a key issue is to develop a more integrated support structure – a “one stop shop” for people to go to for advice and support. The National Advisory Service would be a network organisation, bringing together multiple bodies, but it would act under a single banner so that it could provide simple, coherent communications and branding to prosumers. By developing a well-defined catalogue of potential solutions, matched to the pathways that prosumers undertake, it could provide access to the inspiration, trustworthy advice and hands-on, local support that prosumers need.

### 3. Method

The EMPOWER2.0 partners used the following approach to develop these prosumer models and the associated value propositions, business models and roadmaps:

- 1) **Analysis of previous initiatives.** Project partners had been involved with a number of earlier initiatives to enable citizen engagement with the energy transition. These are documented in the White Book (WP6 deliverable 3) and Long Lists of Challenges (WP6 deliverable 1). Analysis of lessons learned from these projects gave us an initial catalogue of opportunities and challenges experienced by prosumers as they engage with the energy transition.
- 2) **Literature review.** Results from other projects (e.g. PROSEU, RESCOOP, the UK PFER demonstrators and detailed design projects) were analysed to supplement the analysis of stage 1 and so extend this initial view of the prosumer opportunities and challenges.
- 3) **Pilot findings.** Partners undertaking the six pilots within EMPOWER2.0 participated in a series of online workshops to organise the findings of stages 1 and 2, and to update them with findings from the EMPOWER2.0 pilots.
- 4) **Generic Prosumer Model.** The online workshops then developed an initial view of the Prosumer Journey, Pains and Gains to organise and summarise the results of this analysis. They also characterised an initial view of the types of prosumers / prosumer segments that had emerged from the analysis.
- 5) **Prosumer personas and value propositions.** The prosumer segments were analysed by demographic, motivation and type of home occupancy (e.g. tenant versus owner) and mapped onto the Pains and Gains to develop 6 personas that covered all the pains and gains. Value propositions were then developed for each of these personas, identifying the support that might be provided to help them realise the gains / avoid the pains.
- 6) **Consumer research.** Partners undertaking the six pilots informally tested the personas and value propositions with participants in their pilots. More detailed consumer research to test the Prosumer Journey, Pains and Gains against a wider audience was also planned, but unfortunately this had to be cancelled when the project partner (Southend-on-Sea) due to lead the research withdrew from EMPOWER 2.0 at a late stage.
- 7) **Business models for support organisations.** Online and face-to-face workshops were used to draft business models for organisations to deliver each of the propositions developed and refined during stages 5 and 6. We also developed a model for an integrated support structure (the “National Advisory Service”) that combined these six business models.
- 8) **Gap analysis.** The EMPOWER2.0 partners identified organisations within their national contexts that were currently delivering aspects of the integrated support structure, e.g. by undertaking activities identified in the business models of stage 7. This then enabled us to develop a gap analysis of the support each nation currently provides for its prosumers.
- 9) **Roadmap development.** We then developed a generic roadmap to establish the National Advisory Service, and mapped it onto the gaps identified in stage 8 to develop recommendations for each nation.



## 4. Generic Prosumer Model

This section outlines a generic model for the journey people undertake in becoming Prosumers, the types of pain they experience along the way, and the goals they might be seeking to attain. The model has been developed by the EMPOWER2.0 partners in response to the initial literature reviews and findings from the project's pilots. This generic model then helped us develop the personas and frame the user research that are described in the next two sections of this report. That research in turn helped validate and refine these generic models.

### 4.1. Prosumer Journey

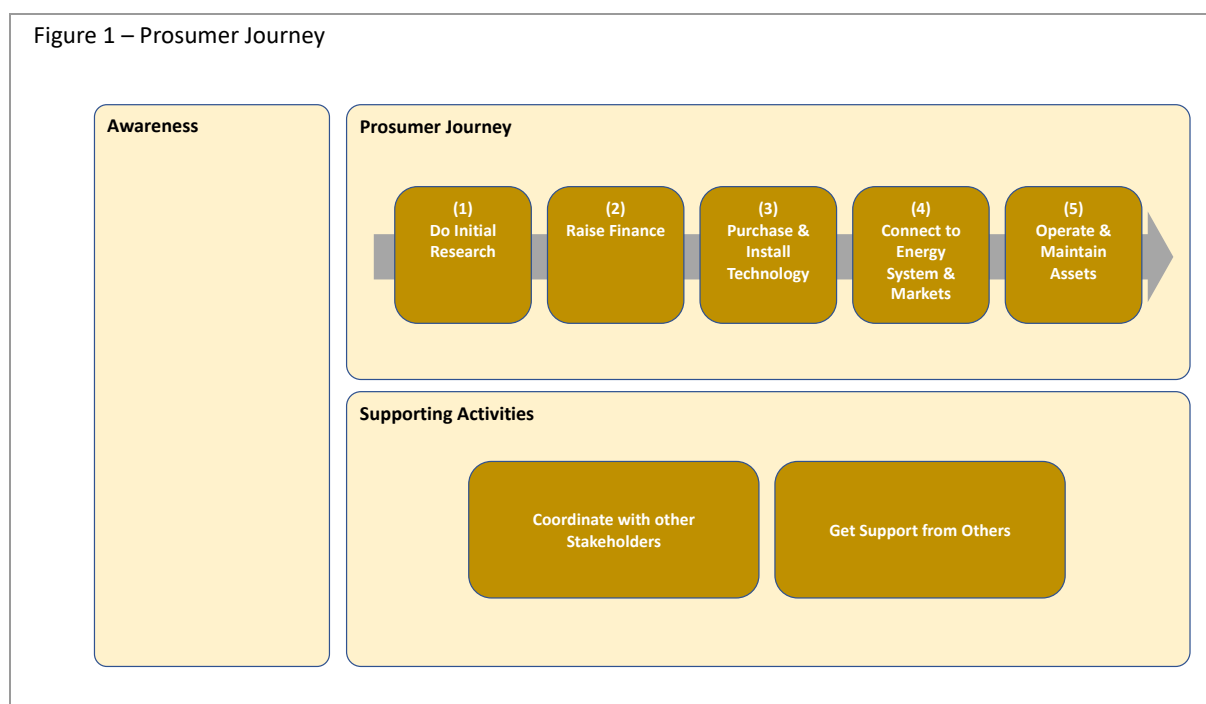


Figure 1 Prosumer Journey

People undertake a sequence of five broad activities in becoming prosumers:

- 1) **Do Initial Research:** People need to gather many different types of information in order to decide whether to become prosumers, what type of prosumer activities to engage in, and how to make the transition. They may ask questions such as:
  - **Current State:** How much is my household currently consuming? How does this vary by time of day, season, etc? What does it cost? What is the environmental impact?
  - **Technical:** What technologies are available? How suitable are they for my property, e.g. does it have sufficient space & the right structural qualities? How suitable are they for my family's lifestyle? What needs to be done to install and maintain them? How easy is it to find a trusted installer?

- **Financial:** What will it cost to make the change? What benefits will it deliver? What financing might I need? Does this investment deliver an acceptable return? How confident can I be that this return will actually be achieved?
- **Social:** Who do I know that has done this already? How happy were they with the outcomes? Who can I turn to for expert support and advice? Who will help me if I have problems or need to make a complaint? Is there a community group, tenancy association, or other group that can help me?
- **Environmental:** What are the environmental benefits of doing this? How confident can I be that they will be achieved?
- **Administrative:** What rules and regulations apply to this? How does it affect other agreements and contracts I might have (e.g. as a tenant in an apartment)? Who do I need to inform about what I am doing, and how complex will this be?

This research may be undertaken through a wide range of mechanisms – online, by talking to friends or community members, by accessing specialist support services, by conducting structured requests for information / quotation (especially for larger community groups), by talking to experts at shows or demonstrations, by gathering corporate brochures and materials, etc.

- 2) **Raise Finance:** Finance is often a significant concern for potential prosumers. Many technologies require substantial upfront investment to buy and install equipment. There may also be costs associated with connecting to energy networks and markets, obtaining administrative approvals, etc. People who do not have sufficient money available to make these investments need to find sources of loans, grants, etc. And even for people who do have sufficient money, the availability of grants and other subsidies (e.g. guaranteed export tariffs for the energy they will generate, loan guarantees, etc) can make a significant difference to the return they might receive on their investment and hence on the viability of their becoming a prosumer.

Once they have identified sources of finance, people need to apply for it. This can itself be a complex and time-consuming process, e.g. to gather the requisite information, fill in substantial forms, demonstrate eligibility for and viability of the financing, etc. So people may require support with the application process as well as the finance itself.

- 3) **Purchase and Install Technology:** This phase works in parallel with the previous, as decisions on what technology to use are closely intertwined with finance availability, needs and payback. Ultimately, the prosumer needs to decide what class(es) of technology to engage with (e.g. PV, heat pumps, efficiency improvements, storage), select specific makes and models of the chosen technology, negotiate pricing, select an installer, arrange any necessary permits and approvals, and design and manage the installation. They may do this direct themselves, or they might work through an intermediary (e.g. the equipment manufacturer may recommend an installer; or a contractor may specify their requirements, select and price the equipment, arrange any necessary approvals, and then install the equipment). They may also coordinate with other prosumers through collective purchasing schemes operated by community groups, local authorities, or other bodies.

- 4) **Connect to Energy System and Markets:** Once the equipment is installed, it needs to be connected physically to energy networks (typically done as part of the installation, but this may entail coordinating with the local network operator or other parties), and then logically and commercially integrated with the wider energy system and markets. This may entail signing appropriate contracts (e.g. with energy suppliers who will pay export tariffs, or with network and system operators who will buy flexibility services), connecting logically to the relevant market systems for trading and settlement, agreeing to share data with market operators, etc.
- 5) **Operate and Maintain Assets:** Most equipment will require ongoing servicing and maintenance. Some may also require regular operational interventions and monitoring. The prosumer needs to ensure this happens, either by signing an ongoing O&M agreement or by scheduling and paying for ad hoc servicing as it is required. They also need to ensure that the equipment and its environment is kept suitably clean, that appropriate insurance is in place, that market activities (trading, billing, settlement, etc) are operating correctly, that loan repayments are made, etc. Then as the equipment draws towards end-of-life, they need to ensure that appropriate plans to decommission and recycle it are executed.

These activities will be preceded by some sort of **Awareness** raising, to alert them to the possibility of becoming a prosumer and of the benefits they might obtain by doing so. This might happen in a wide range of ways – as a result of a marketing campaign by a public body (e.g. to drive progress towards Net Zero targets or to address concerns such as fuel poverty) or commercial company (e.g. to sell their products and services); through word of mouth from their friends, family, neighbours or other community members; from news stories; etc. This triggers them to undertake more research and hence start the journey.

The journey is supported by two types of **Supporting Activity**:

- 1) **Coordinate with other Stakeholders:** The journey entails working with a wide range of other people – community (community groups, neighbours, tenants' associations, etc), local and central government and regulators (both for support they provide and to obtain any necessary permits, licences and approvals), energy system and market operators, commercial organisations (energy suppliers, equipment manufacturers and installers), etc. The prosumer needs to identify who they might/must work with, build appropriate relationships and trust, manage communications, etc. The amount of overhead associated with this coordination should not be underestimated, especially where the prosumer is an early adopter of a new technology or business model.
- 2) **Get Support from Others:** Of course, these relationships can also be a significant source of information and support for the potential prosumer. Most prosumers will require a degree of technical, financial, administrative and social support as they progress through the journey, likely from some combination of friends and family, community members & groups, specialist advisors, local authorities, and commercial service and equipment providers.

## 4.2. Pains

Figure 2 – Pains: What makes it difficult to become a Prosumer?

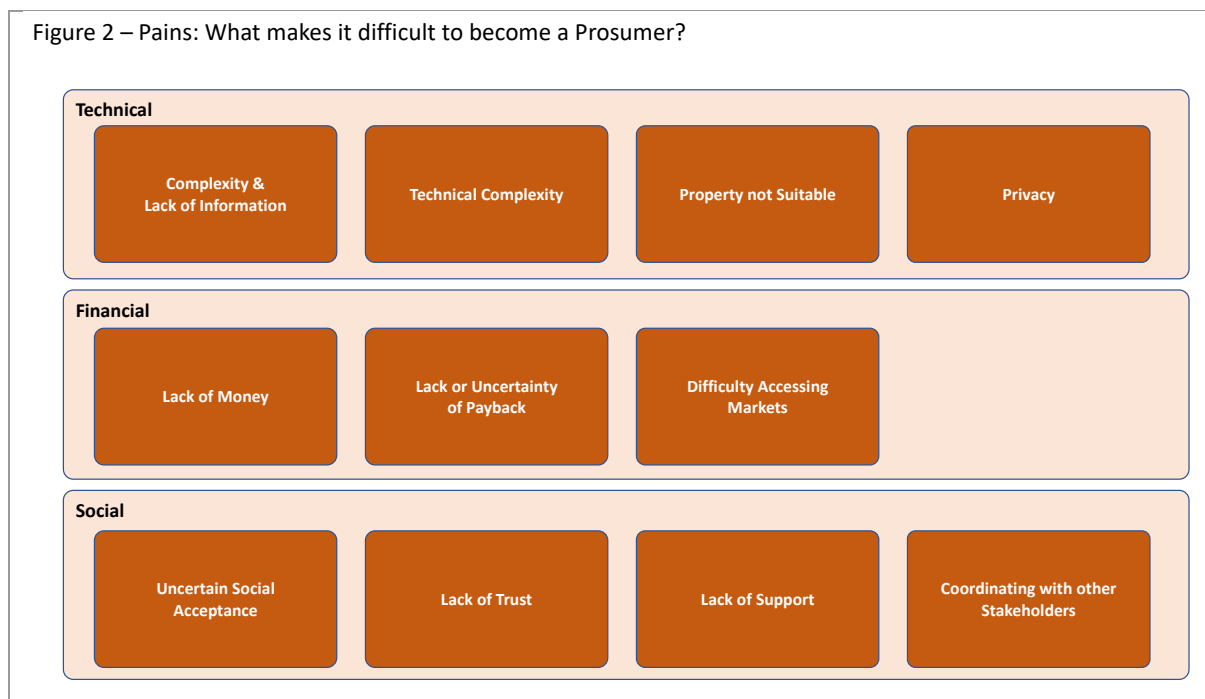


Figure 2 Prosumer Pains

Prosumers describe a wide range of pain points along this journey. We have classified these as either technical, financial or social, as follows.

**Technical** pain points include:

- 1) **Complexity & Lack of Information:** There is a wide range of technical options available, so people find it difficult to even know where to start in amongst all the available information. At the same time, they can find it difficult to obtain key pieces of information, e.g. on the exact capabilities (in real world conditions) and pricing of the technologies they are interested in. It can also be difficult to link information across multiple sources, e.g. matching the specifications of equipment onto the requirements of regulators and network operators, who may specify their requirements in quite different terms. Likewise, matching technical capabilities to the taxes and levies which apply, tariffs which can be obtained, etc. can be complex, as can be understanding their implications for contracts, insurance, etc. Assessing this information can be difficult for specialists in the domain; most prosumers don't have the expertise to assess it fully, so must rely on trusted sources to provide advice.
- 2) **Technical complexity:** Even once a solution has been chosen, significant complexity remains. Most solutions entail integrating multiple different technologies (e.g. physical and logical interoperability between PV, battery and other systems) and fitting them within the current home environment (e.g. connecting to smart meters, wireless networks, electrical cabling, etc). This often brings up a lot of unanticipated challenges, even for technical specialists. There is also administrative work to connect to the distribution network and other energy systems & markets, which can entail collecting a lot of technical information and filling in

complex forms. Many potential prosumers are daunted by the complexity of it all, by fear of not being able to do it correctly. And they find it difficult to find technical specialists to help, as they lack the technical expertise to assess the claims of service providers.

- 3) **Property not Suitable:** People may find that their property is unsuitable, for a variety of reasons. These include physical (e.g. property lacks space or structural strength to accommodate the desired solution), legal (e.g. tenancy agreements do not allow the technology to be installed; building is protected from development for heritage reasons), network (e.g. distribution network lacks capacity) and operational (e.g. site prone to vandalism or damage by animals) concerns. Identifying such restrictions at an early stage can help people avoid spending a lot of time exploring options which aren't suitable for their circumstances.
- 4) **Privacy:** Many solutions entail sharing data with network operators, technology manufacturers and maintainers, service providers, etc. It can be difficult to find out what information is being shared, who it is ultimately shared with (as the initial recipient may pass it on to other partners for processing), and to understand the full implications of this for the privacy of the prosumer and other people in their household.

**Financial pain points include:**

- 1) **Lack of Money:** Most solutions entail significant upfront expenditure to prepare the home, buy and install equipment, etc. People who lack savings can therefore find it difficult to participate. In some cases, this can be overcome through loans or grants, but many people lack the necessary credit rating and income to obtain and service loans. And where grant funding does not cover 100% of costs, people may lack the match funding required to obtain a grant. It can also be difficult to find out just what loans and grants are available, especially as they are offered by multiple bodies with varying requirements and terms.
- 2) **Lack or Uncertainty of Payback:** It can be difficult to obtain well validated figures on the return that can be obtained (e.g. by reducing energy costs) from investing in technologies such as PV or batteries, which in turn makes it difficult to justify spending savings or taking out a loan. Even where figures are available, the payback period can be long, which makes it unattractive to many people (especially if they do not anticipate living in the same house for that period – there is little information available on how such investments might improve the value of their home when they come to sell it). This lack of payback comes from a combination of the high upfront cost of equipment, lack of negotiating power that small energy users have to obtain a good price for the energy they produce / consume, lack of access to the most attractive markets, need to pay margin to intermediaries, etc. Some people are also concerned that the paradigm of requiring payback is not appropriate – “I don't need to demonstrate payback for my kitchen, why do I have to do it for a heat pump or PV?”.
- 3) **Difficulty Accessing Markets:** Markets for energy and associated services (e.g. for flexibility) have been developed for large, specialist energy firms. The conditions for entry (e.g. size of trades, need to deposit bonds and guarantees) may be unsuitable for prosumers, or the technical, legal and administrative requirements may be dauntingly complex (and often ambiguous and even contradictory), and impose costs and overheads that further exacerbate

the concerns about payback. Market requirements and associated regulatory codes, licences, taxes, levies, etc, are also constantly changing, imposing a high overhead on prosumers to keep up to date with the requirements. Finally, it can be difficult for prosumers to engage with large, incumbent energy industry organisations (network & system operators, suppliers, regulators, government policy setters, etc) to discuss these issues, negotiate contracts, etc.

**Social** pain points include:

- 1) **Uncertain Social Acceptance:** People may be concerned about the opinions of friends and neighbours when they become early adopters of new technologies, especially when those technologies are very publicly visible (e.g. for a PV array or EV). In some cases, being seen as a first mover can confer status, but it can also expose the prosumer to debates about alternative viewpoints, concern about aesthetics of the technology, etc.
- 2) **Lack of Trust:** Trust is a key enabler to people becoming prosumers. They need trust at three levels – trusted information to help them decide how to participate, trusted technology that operates as expected and delivers the anticipated benefits, and trusted service providers (advisers, installers, maintainers, etc) to help them participate. Potential prosumers express concerns about all three of these trust levels in the current market.
- 3) **Lack of Support:** The above pain points identify several areas where potential prosumers are likely to need support and advice. They often struggle to find trusted sources of this support.
- 4) **Coordinating with other Stakeholders:** The above points also identify many areas where prosumers may need to coordinate with other parties – with other prosumers in order to build negotiating leverage with equipment manufacturers, installers & intermediaries, or to build sufficient scale to access markets; with local planning authorities; with network operators; with regulators; with energy suppliers; etc. It can be difficult to find all the right players and engage their attention, especially for non-specialists for whom prosumerism is only a part-time activity. This may be exacerbated by conflicts of interest across the many stakeholders, and even within individual community groups which may hold diverse views and objectives. Community groups also suffer from issues such as lack of continuity as people move through the group. (This is not uncommon in other organisations too – turnover of staff within advisory firms, local authorities, energy suppliers, etc, can make it difficult for prosumers to engage with them.)

### 4.3. Gains

Figure 3 – Gains: What might Prosumers want to Achieve?

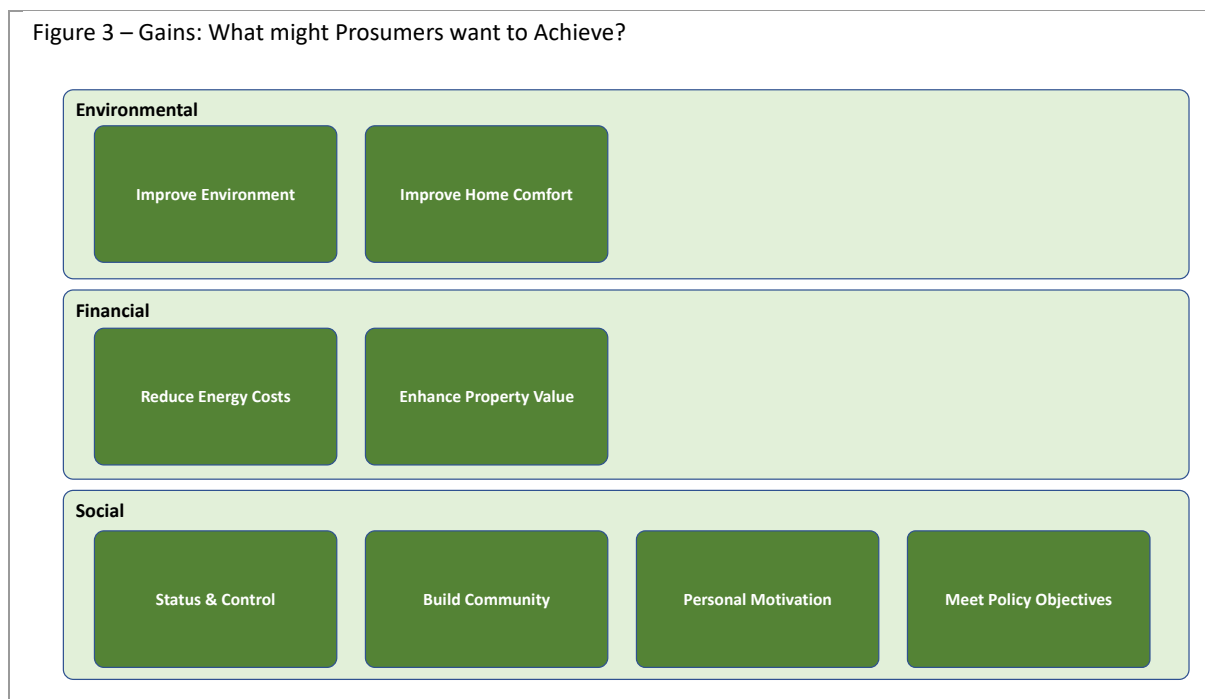


Figure 3 Prosumer Gains

Prosumers engage in this journey for a variety of reasons. We have classified these as environmental, financial or social, as follows. Note that most prosumers probably have multiple reasons for engaging. Their primary motivation might be environmental, for example, but they will also be looking to make financial and social gains, or at least to not lose out in these domains.

**Environmental gains include:**

- 1) Improve Environment:** For many, prosumerism is a route to directly reduce greenhouse gas emissions and so help address climate change. However, other gains for the wider environment can also be important, e.g. to improve air quality, or to take some sort of tangible action to help trigger activity from other people. Community projects can also address objectives such as biodiversity.
- 2) Improve Home Comfort:** Improving the home environment is also important to many, and may be the primary driver for some. Improvements come firstly from improved levels of warmth in the home (e.g. due to better insulation), but factors such as an improved sense of visibility and control over schedules for heating and suchlike can also be important. Benefits to air quality within the home, better ventilation and reduced drafts, improved aesthetics, etc, can also be important here.

**Financial gains include:**

- 1) Reduce Energy Costs:** Prosumers can reduce their energy costs in a number of ways. By generating their own energy, they naturally avoid paying for energy and associated costs (e.g. network charges) to suppliers and network operators. They may also avoid a variety of taxes and levies. Even where they continue to buy energy from national markets, efficiency

improvements may reduce the amount they need. Better visibility of their consumption may also enable them to take action that avoids waste and hence unnecessary costs. Finally, opportunities to provide flexibility services to the energy system, and so earn some income to offset their energy costs, are becoming accessible to households and community groups.

Even where prosumers are driven more by environmental or social goals, cost is clearly an important factor. Few can avoid to spend a lot of extra money on their energy, so it is important that prosumer activities at least do not significantly increase energy costs.

- 2) **Enhance Property Value:** Investing in the fabric of their home or installing equipment such as PV arrays or modern heating systems has potential to increase the value of people’s homes, which can be attractive to home owners and an incentive for landlords to support prosumerism in their tenants. However, the benefits are often uncertain and may be difficult to realise, as housing markets often value other factors (location, more visible amenities such as kitchens, etc) more highly. There can also be a “split incentives” problem for landlords and tenants – tenants receive the benefit of reduced energy costs while landlords gain from any enhancements to the value of the property. Together, these can amount to a significant gain but neither may be sufficient individually for either party to have an incentive to initiate and coordinate change.

**Social gains include:**

- 1) **Status and Control:** Prosumers can gain greater control over their energy use and costs, and hence a greater sense of control overall in their lives, both because they are less dependent on external parties to provide their energy and because smart technologies can give them increased data about their energy use and the ability to schedule and manage equipment operation more conveniently. This sense of independence and control may enhance their status within their community, as may the perception that they are savvy users of new technologies and doing their bit for the environment.
- 2) **Build Community:** Prosumers may gain a sense of “being part of something”, of joining a movement that is addressing both global concerns about climate change and local concerns about the environment, community control, etc. The activity of working together with other people in their community to understand, fund, install and operate new technologies may also help build local community.
- 3) **Personal Motivation:** Some people are attracted to prosumerism for reasons of personal development. For example, they can learn new skills and feed their curiosity about new technologies. This can be especially attractive at inflection points in their lives – e.g. finding new interests at retirement, doing something for the next generation on becoming a parent or grandparent. Prosumerism can also be a way to extend existing interests, e.g. for energy professionals to bring their expertise into their home and personal lives.
- 4) **Meet Policy Objectives:** People within government, local authorities and similar bodies may become involved with prosumerism as a means to meet policy objectives such as increasing citizen awareness of and engagement in the environment and the net zero goals, addressing fuel poverty, supporting local and regional economic development, etc.



## 5. Target Prosumer Personas and Value Propositions

Based on the initial literature reviews, pilot findings and analysis of the generic prosumer journey, pains and gains, we developed six personas to help us focus on the needs of different types of prosumer, and hence on the types of products or service that might be developed to support these different prosumer types. We used the Value Proposition Canvas<sup>1</sup> to do this, as it both gave us a well-recognized model to organise our analysis and could be easily developed through online workshops, which was essential during the Covid-19 lockdowns of 2020 & 2021.

Prosumers can potentially come from a wide range of backgrounds, have varying means and motivations, are in different lifestyles, etc. Thus there are many ways they can be segmented and subdivided into personas. The personas we developed here therefore cannot be a single, definitive set. Instead, they are intended to cover the full range of experiences, goals and pain points that we identified in the initial research, and so to help us identify the full range of services that different prosumers might benefit from.

This section describes the six personas we developed to help us identify this full range of services.

### 5.1. Starting the Journey

Figure 4 – Starting the Journey – Potential Value Proposition

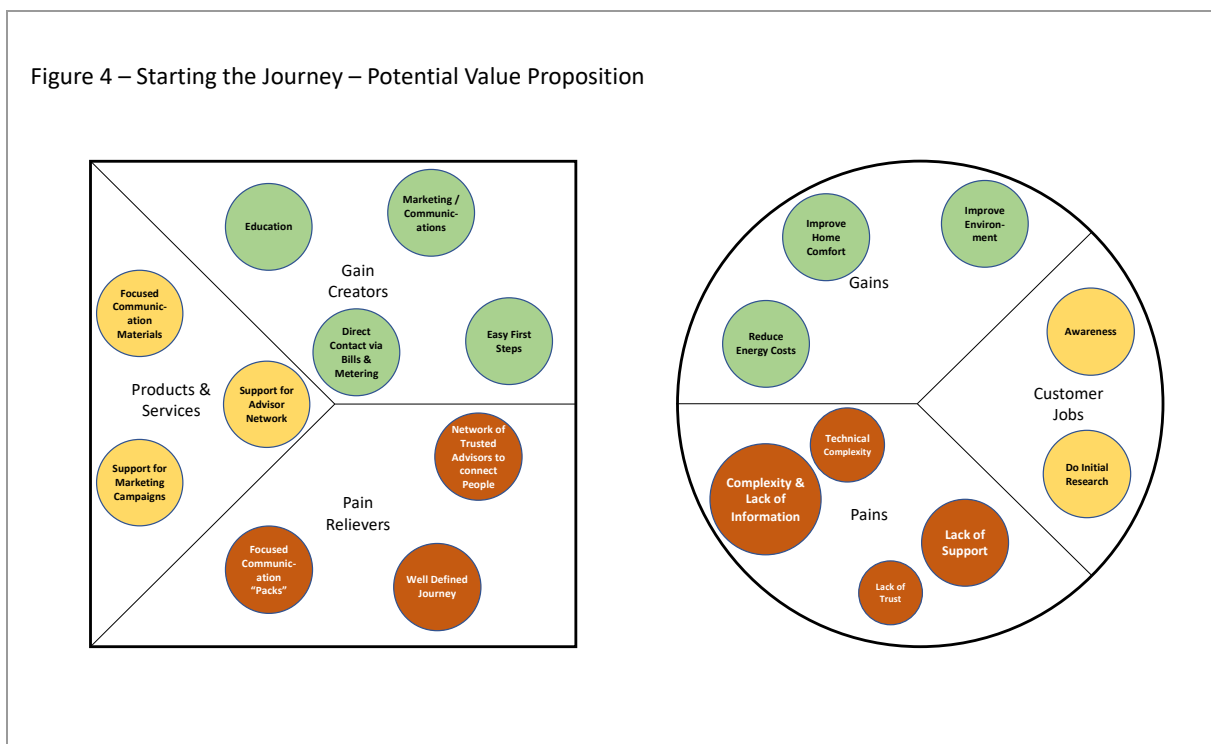


Figure 4 Value Proposition Canvas – Starting the Journey

<sup>1</sup> <https://www.strategyzer.com/canvas/value-proposition-canvas>

This persona covers people who are just beginning the journey to become prosumers. They may come from a wide variety of backgrounds, ages, knowledge levels, communities, etc, but they all share a couple of common jobs they must engage in:

- 1) **Awareness:** People need to be made aware of the possibility of becoming a prosumer, and of the reasons why they might wish to do so. This might then attract them to begin the journey.
- 2) **Do Initial Research:** There are a wide range of routes to prosumerism. Differing circumstances may require different technologies, business models, funding mechanisms, organisational structures, etc. So potential prosumers need to untangle all the possibilities and find the route that is most relevant to them.

People may begin this journey with a wide range of motivations, as identified under the gains in section 4.3 of this report. However, we have posited that at this early stage most people are likely to be attracted by:

- 1) **Reduce Energy Costs:** People are likely to be attracted by the potential for significant savings on current energy bills, and also to reduce their exposure to future tariff increases.
- 2) **Improve Environment:** Concern about climate change, air quality issues and other environmental concerns are likely to be a growing motivator for many people, who want to “do their bit” to address the issues and pass on a better planet to future generations.
- 3) **Improve Home Comfort:** Many people are also likely to be attracted by the potential to improve the comfort and aesthetics of their home.

These attractors might be enhanced by “gain creators” such as:

- **Marketing / Communications:** People cannot begin the journey if they are not aware of the benefits. There is still plenty of scope to increase this awareness through a variety of marketing mechanisms – mass media campaigns, social media and influencers, word of mouth, etc. Some of this communication might be initiated to support policy initiatives around net zero or other environmental objectives, but there is also a role for commercial entities to build awareness in order to create markets for the equipment, services and financing that they might provide. It might also be supported through the energy sector’s social and community obligations.
- **Education:** Schools and universities can play a significant role in educating people about the potential for prosumerism and the routes through which it can be achieved, both for their core audiences and as continuing education targeting people of all ages.
- **Direct Contact via Bills & Metering:** The energy sector has an important route to inform people through its metering and billing systems. People are thinking about energy and very aware of its costs when they handle their bills or look at metering data – this is the ideal time to inform them about the potential for prosumerism to reduce costs and make it easier to understand and manage their energy use.

- **Easy First Steps:** Although much attention is focused on the big, large impact items – PV arrays, heat pumps, batteries, etc – there are many smaller things that people can do to improve the energy efficiency and usage of their homes. People need to be given small things that they can do simply in order to start the journey, and to be able to take the whole journey in small, incremental steps so far as is possible.

The key barriers and pain points at this stage in the journey are likely to include:

- 1) **Complexity and Lack of Information:** Difficulty finding the right information is a major barrier at this stage. People need to navigate a complex landscape with many different options. There is often simultaneously too much information, due to the complexity of the landscape, and not enough information, because few materials have been developed to address the needs of people with limited knowledge and expertise of the energy system, technology, etc.
- 2) **Technical Complexity:** Closely related the above, much of the information that is available is too complex for people who are just beginning the journey to understand.
- 3) **Lack of Support:** Just as it is difficult to find the right information, people can find it difficult to find support at this stage of the journey. Many support services are structured around specific issues or solutions, so can tend to channel people towards their own area of expertise rather than give the broad overview of all the options that they need.
- 4) **Lack of Trust:** When they see that most of the solutions and support available are linked to specific agendas, and often to commercial interests, people wonder how much they can trust the advice and support that they are given.

These pains might be relieved by:

- **Well-defined Journey:** Giving people a clear view of the different paths they might take, and of the stages along each path, so that they know what to expect and what will be expected of them.
- **Focused Communication “Packs”:** Communicating in a way that is targeted both by the characteristics of different prosumers and by the stage of the journey that they are at. Initially this means providing guidance on the options available and help to choose the right path. Later it means step-by-step guidance to help them along the path in easy steps.
- **Network of Trusted Advisors:** Building a network of advisors that people can trust to give impartial advice, with clear mechanisms for people to recognise advisors within this network and the competencies they bring.

Overall, to support people at this stage in the journey we might want to provide:

- **Focused Communication Materials:** A clear, trusted set of materials describing the overall landscape and mapping out the paths across it would underpin much of the support needed by prosumers. It would also help identify the types of products and services that need to be developed to provide the advice and solutions that prosumers need.

- **Support for Marketing Campaigns:** Many bodies that might give trusted advice to consumers, e.g. community groups and not-for-profit support organisations, lack the marketing infrastructure to raise awareness amongst a large population of potential prosumers. So there could be a role for some type of more central support for this type of communication.
- **Support for Advisor Network:** A coordinated network is likely to be more effective than a number of disconnected advisors, e.g. so that people can be referred to specialists with the right expertise or in the appropriate geographical area. Coordinating functions could also include ensuring that advisors' knowledge is relevant and up-to-date (e.g. through disseminating new solutions as they emerge and providing continuing professional development), assuring the quality of their advice (e.g. by providing trustmarks and backing them with services for complaint handling and suchlike), connecting advisors to the supply chain for solutions (manufacturers, installers, etc).

## 5.2. Homebuilders

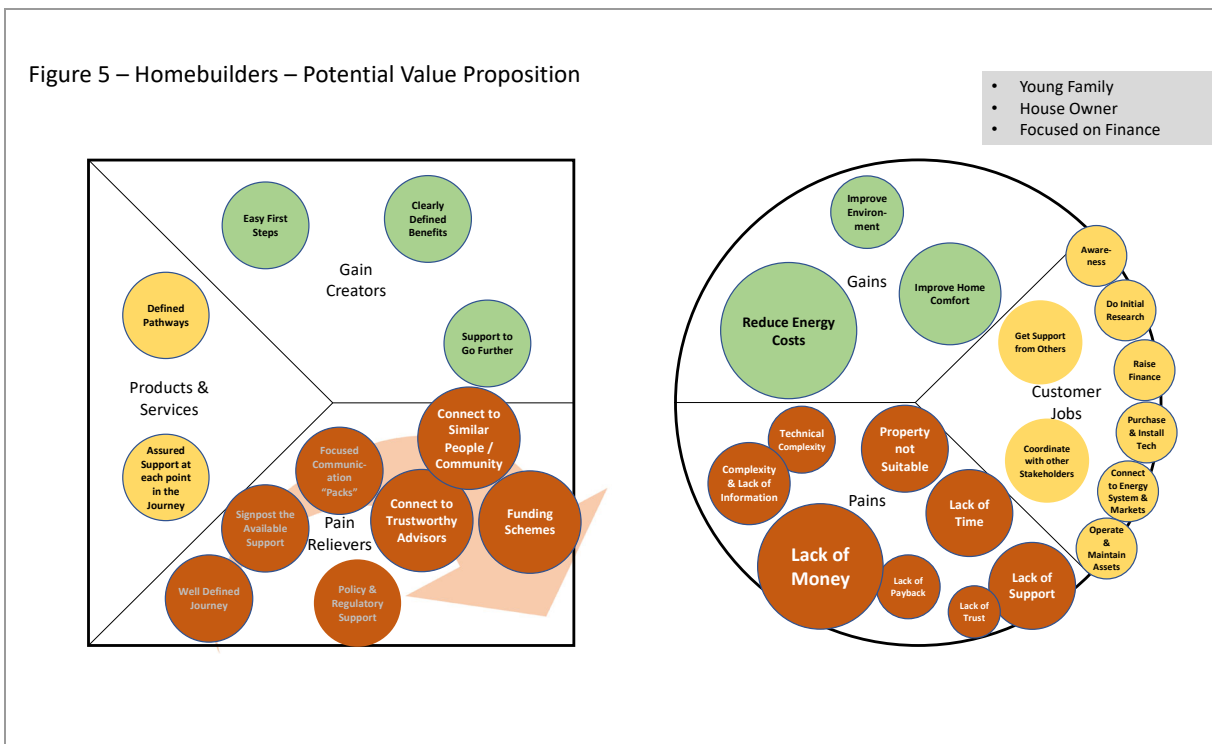


Figure 5 Value Proposition Canvas – Homebuilders

This persona targets young families, e.g. couples with young children. Although they might own their own homes, they need to manage their money carefully due to all the costs of beginning a family. Likewise, they are very busy, so time is at a premium. After some initial research and choosing a path towards prosumerism, they may be ready to undertake the full suite of activities outlined in section 4.1 of this report (raising finance, purchasing and installing equipment, connecting to the energy system, maintaining the equipment, etc). Their motivations are likely to include:

- 1) **Reduce Energy Costs:** Because money is tight, reducing their costs is a key attractor for this group.
- 2) **Improve Home Comfort:** The demand of a young family mean that factors such as adequate warmth and ventilation are also important – anything that might help the health and wellbeing of their children will be prioritised.
- 3) **Improve Environment:** Having a young family makes them very aware of the world they might pass on to their children, but this may sit behind more immediate concerns such as money and health in their priorities.

These motivations might be enhanced by “gain creators” such as:

- **Clearly Defined Benefits:** Homebuilders need clear, trustworthy information about the benefits they might achieve through prosumerism. They have neither the time nor the resources to undertake research and integrate and validate a lot of complex information.
- **Easy First Steps:** If the benefits are right, then homebuilders probably have a strong incentive to act. But again, they are short of time and resources, so they need to be able to move forwards in small, simple steps.
- **Support to go Further:** Prosumerism can seem like a long journey. With so many other things happening in their lives, it could be easy for homebuilders to set it aside and focus elsewhere. Active support and encouragement will help them identify and take the next step at each point in the journey.

The key barriers and pain points for Homebuilders are likely to include:

- 1) **Lack of Money:** Starting a new family entails big financial commitments, perhaps coupled with loss of income as partners focus more time on childcare. So homebuilders are likely to be especially constrained in the amount of spare money that have available.
- 2) **Lack of Time:** Likewise, starting a new family entails huge time commitments. Homebuilders don't have a lot of spare time to do research, interact with equipment sellers and installers, deal with financial institutions, apply for grants, etc.
- 3) **Lack of Support:** As well as being busy, homebuilders can sometimes feel isolated. Finding good sources of support could be critical to their continuing to move along the prosumer journey.
- 4) **Property not Suitable:** A growing family can mean that there is a lot of pressure on space in the home, so interventions that require a lot of space may not be feasible. It may also be difficult (and unsafe) to undertake major renovations while a young family is at home, also constraining what can be done.
- 5) **Complexity and Lack of Information:** As with all groups, homebuilders can be both overwhelmed by the range of options and amount of information available, yet unable to find the specific, trustworthy information that they need.

The most important pain relievers for Homebuilders might be:

- **Funding Schemes:** Easy access to finance, either through grants or easily-repaid loans, is probably critical to enabling homebuilders to invest in renovations and technology.
- **Connect to Similar People / Community:** Connections to “people like me” can do a lot to help homebuilders find the support and trusted information that they need.
- **Connect to Trustworthy Advisors:** For more specialist advice and support, homebuilders need easy access to trusted advisors.

Thus a service to support Homebuilders might want to provide:

- **Defined Pathways:** Homebuilders are likely to value a clear, accessible set of pathways laying out the options available to them, with well-defined, easy steps along each pathway.
- **Assured Support at Each Point in the Journey:** Homebuilders will need different types of support depending on the options they choose and the stage of the journey they are at. It needs to be easy for them to find targeted, trustworthy support at each point.

### 5.3. Environmental Champions

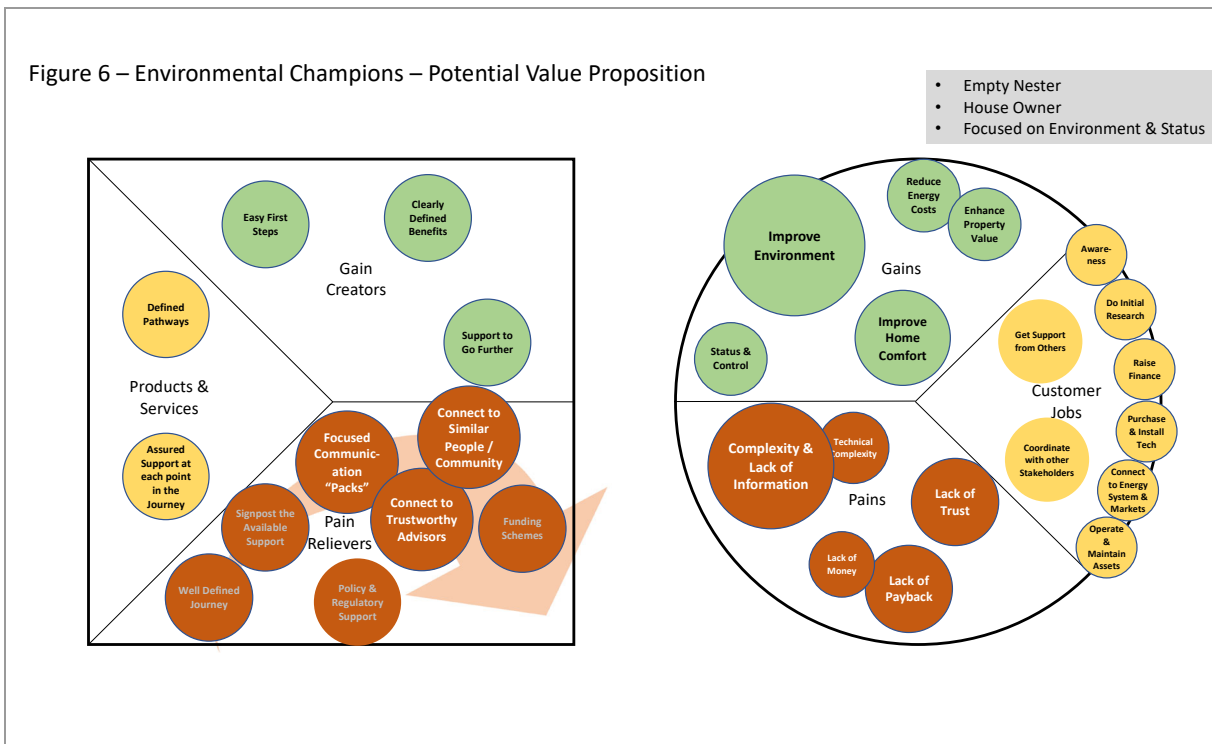


Figure 6 Value Proposition Canvas – Environmental Champions

Environmental Champions are focused on the non-financial benefits of prosumerism. They care about the environment and issues such as climate change, and want to act to address these concerns. The constraints of raising a family are no longer so pressing, so they have the time and resources (although they don’t want to waste money) to act, and to encourage others to act. They might well be “empty nesters”, seeing their children go out into the world and perhaps begin to raise grandchildren. They may also be home owners, now with plenty of space to work with. As with Homebuilders, they have

done their initial research and chosen a path towards prosumerism and are undertaking the full suite of activities outlined in section 4.1 of this report (raising finance, purchasing and installing equipment, connecting to the energy system, operating and maintaining the equipment, etc).

Their motivations are likely to include:

- 1) **Improve Environment:** Environmental Champions are driven to reduce greenhouse gases, improve air quality, and address other environmental concerns such as biodiversity, waste, plastics, quality of life for future generations, etc. This is probably overwhelmingly the dominant theme for them.
- 2) **Improve Home Comfort:** They are attracted to prosumerism because it doesn't necessarily entail compromise. The right solution can improve their home comfort and quality of life as well as help the environment. As we've framed this as an older persona, improving home comfort and health may well be a strong driver for them too.
- 3) **Reduce Energy Costs:** Few can afford to spend a lot extra in order to obtain clean energy. Again, Environmental Champions may be attracted by the potential to "have their cake and eat it", i.e. to address environmental issues while also saving money. At the least, they will be looking for solutions that don't cost them a lot extra.
- 4) **Enhance Property Value:** The home owners within this group may also be attracted to the potential for new equipment and improvements to the building fabric to increase the value of their homes.
- 5) **Status and Control:** Improved visibility of and control over their energy usage and costs, and the status conferred by adopting clean, up-to-date technology can also be an attraction.

These motivations might be enhanced by "gain creators" similar to those for Homebuilders – Clearly Defined Benefits, Easy First Steps and Support to go Further.

The key barriers and pain for Environmental Champions are likely to include:

- 1) **Complexity and Lack of Information:** Environmental Champions may well have the time and inclination to do research, and even be attracted by the possibility of new learning, but they still have to deal with a daunting range of options, complex jargon, ambiguous and conflicting information and points of view, advocacy and hidden agendas, etc. They also suffer from a lack of clearly targeted information aimed at the issues that concern them – much information has been framed for different audiences, e.g. technical or energy sector specialists.
- 2) **Lack of Payback:** Environmental Champions may have savings or access to finance, but they also want to use their money wisely. It can be very difficult for them to get clear, validated information about what paybacks are achievable. And often the paybacks they can achieve are not especially attractive, e.g. due to the high overheads associated with installing and administering what are, from the energy system's perspective, relatively small pieces of equipment.

- 3) **Lack of Trust:** It can be hard to find trusted advisors and installers. This lack of trust is exacerbated by experience with mis-selling scandals in the sector, and by the lack of common standards in many areas.
- 4) **Technical Complexity:** Even once they have chosen a solution, Environmental Champions can get caught up in further technical complexity. Most solutions involve integrating various technologies, and interoperating with market and administrative systems belonging to energy industry bodies. This can be difficult even for technical experts.
- 5) **Lack of Money:** Not all Environmental Champions have savings, and many are starting to think about how to deal with a reduction in income as they move into retirement. So high upfront costs for equipment and installation can be a barrier.

These pains might be relieved by:

- **Focused Communication “Packs”:** Environmental Champions have time and the inclination to access and read relevant information. But to make this tractable, they need targeted information that addresses the environmental drivers they care about, and clearly explains what they might do to become prosumers and how they might do it.
- **Connect to Trustworthy Advisors:** Once they have identified their preferred option and have some sense of the path they want to take to achieve it, Environmental Champions need trusted advice on the technical and administrative details.
- **Connect to Similar People / Community:** Environmental Champions can turn into important advocates for the solutions that have adopted, as they are motivated to encourage other people to adopt similar solutions. This can be supported by connecting them to people who are ahead of them in the journey, so they can learn from others’ experience, and by those who are still considering their options, so they can demonstrate the benefits of what they have done and help others begin the journey.

So again, a service to support Environmental Champions needs to set out clear **Defined Pathways** to show the options available, and the steps which must be taken to achieve them, with **Assured Support at Each Point in the Journey**.



## 5.4. Community Builders

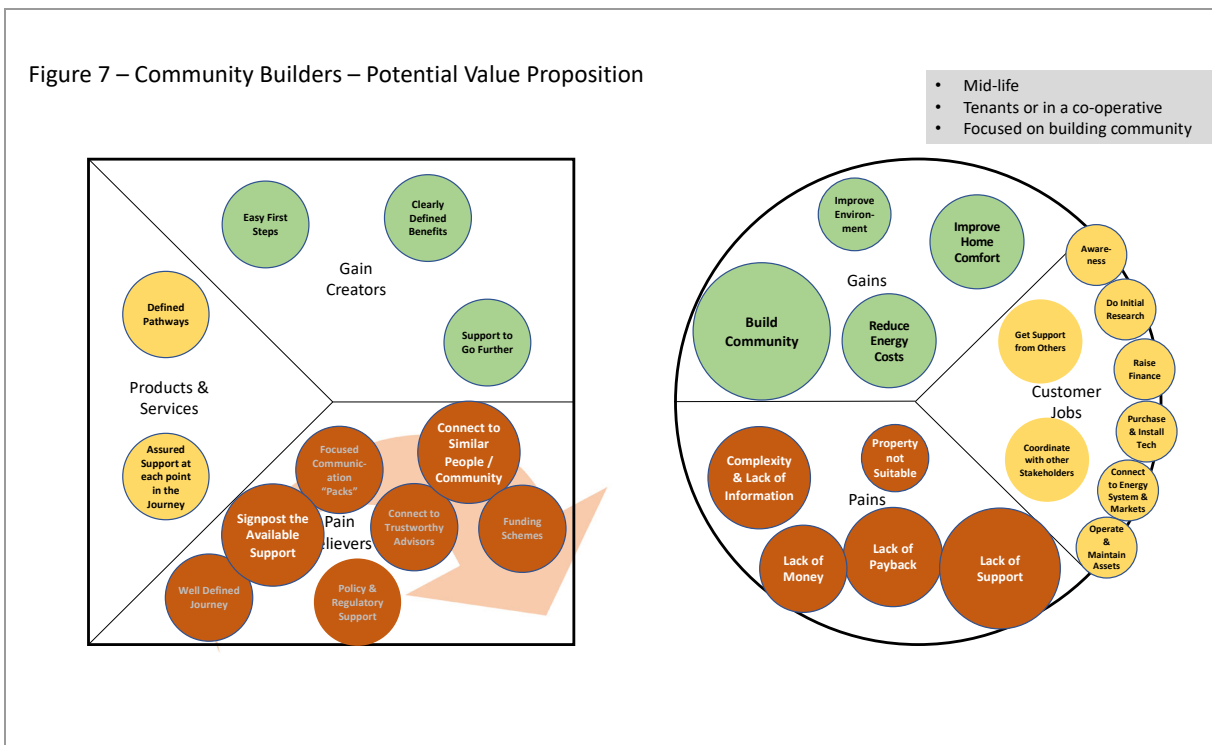


Figure 7 Value Proposition Canvas – Community Builders

Community Builders are driven by the social aspects of prosumerism – they value and want to build connections amongst people, and find that the benefits of prosumerism give a good focus for communities to coalesce around. The persona we have developed considers that Community Builders might be tenants or members of a co-operative, reflecting their draw towards more communal living and action. They may also be more towards mid-life, beyond the pressures of a young family and not yet at the stage of being empty nesters. Again, after some initial research they will choose a path to become prosumers and then commence on the suite of actions outlined in section 4.1 of this report.

Their motivations are likely to include:

- 1) **Build Community:** Other personas recognise the value of building community in order to gain support for their environmental and other objectives; for Community Builders it is a primary motivation. They are keen to build and support resilient communities as a valuable end in its own right.
- 2) **Reduce Energy Costs:** Community Builders recognise that their community needs to create tangible benefits for its members. Especially in less prosperous areas, being able to reduce their energy costs can be a strong incentive for people to act together.
- 3) **Improve Home Comfort:** Likewise, being able to improve the warmth, health and comfort of their homes can be a powerful incentive for people to act together.
- 4) **Improve Environment:** There is growing awareness of the need to act on climate change, so this can also be a powerful incentive for communities to work together.

These motivations might be enhanced by “gain creators” similar to those described earlier – Clearly Defined Benefits, Easy First Steps and Support to go Further.

The key barriers and pain points for Community Builders are likely to include:

- 1) **Lack of Support:** Community Builders are driven by social contact. If they begin to feel alone and unsupported, that can be a powerful disincentive to continue acting.
- 2) **Complexity and Lack of Information:** Unlike some other personas, Community Builders are not necessarily driven by an inherent interest in the intricacies of technologies, systems or markets. So if they cannot get the information they need, or it is presented in too complex a way, this also becomes a powerful disincentive.
- 3) **Lack of Money:** Communities encompass people of wide range of means, so are likely to include some (in some cases, a large proportion) who cannot afford upfront investment. This can very rapidly filter people out if affordable options and financing cannot be obtained.
- 4) **Lack of Payback:** Community Builders need to be able to deal with sceptics, so they need to be able to demonstrate that the solutions they propose are financially viable. Clear payback is also necessary to help obtain financing, addressing the point above.
- 5) **Property not suitable:** We’ve characterised this persona as weighted towards tenants or people in community-based multi-occupancy schemes. This creates additional challenges in terms of gaining consent from landlords and other parties, finding space to install equipment, dealing with shared spaces, addressing aesthetic concerns, etc.

These pains might be relieved by:

- **Connect to Similar People / Community:** Community Builders will be very interested to connect to people who have faced similar challenges, to share learning and support. They are likely to value personal support from their peers very highly.
- **Signpost the Available Support:** Community Builders need a clear route to find any additional information and support that they need.

So again, a service to support Community Builders needs to set out clearly **Defined Pathways** to show the options available, and the steps which must be taken to achieve them, with **Assured Support at Each Point in the Journey**.

## 5.5. Apartment Dwellers

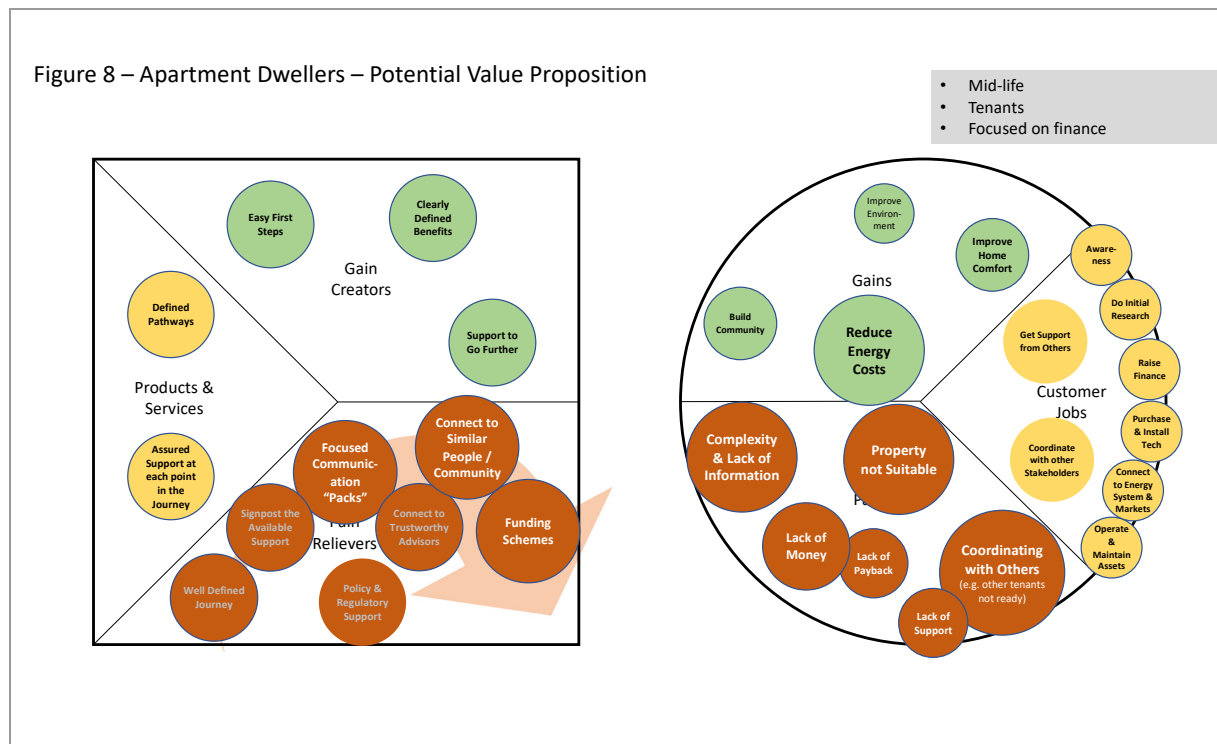


Figure 8 Value Proposition Canvas – Apartment Dwellers

Apartment Dwellers have some very different challenges compared with homeowners. They have less control over the fabric of their homes, having to negotiate any major changes with their landlords (if they are tenants) and perhaps also with residents' associations and similar bodies. If tenants, they also do not benefit from any enhancement to the value of the property that improvements might make, and their finances may be constrained as they do not benefit from the capital growth that homeowners experience with their homes. So we have developed a persona based on Apartment Dwellers who are in mid-life, and with relatively tight finances.

Their motivations are likely to include:

- 1) **Reduce Energy Costs:** Reducing their costs is likely to be a significant driver for many Apartment Dwellers, especially those in social housing and similar schemes. This driver is enhanced in cases where they do not benefit from any enhancements to property value that improvements might create – their main route to financial return is in their energy costs.
- 2) **Improve Home Comfort:** Many Apartment Dwellers will also be attracted to opportunities to improve the warmth and comfort of their homes.
- 3) **Build Community:** Improving relationships with their neighbours and community by working together can be a significant benefit to some Apartment Dwellers.
- 4) **Improve Environment:** Again, this is a growing concern for many people, so can be a valuable added incentive to becoming a prosumer.

These motivations might be enhanced by “gain creators” similar to those described earlier – Clearly Defined Benefits, Easy First Steps and Support to go Further.

The key barriers and pain points for Apartment Dwellers are likely to include:

- 1) **Coordinating with Others:** The necessity to coordinate with other residents, landlords, etc, can create a lot of obstacles. People may lack time to engage, not be interested in the intricacies of prosumerism, have different views on the need to act and/or the best action to take, be at a different stage of the journey, etc. Apartment Dwellers may need to overcome many such issues in order to create impetus for improvements to their buildings.
- 2) **Property not Suitable:** Apartments often lack space for new pieces of equipment, e.g. to install batteries within the building or PV on the roof. They may also need structural work to be able to accommodate such equipment. There is also the need to obtain all the necessary permissions to make changes to shared spaces. And of course, the landlord must be amenable to change in the first place.
- 3) **Complexity and Lack of Information:** As with the other personas, Apartment Dwellers can find it difficult to navigate the large and complex set of information out there, and struggle to find the exact information that they need.
- 4) **Lack of Money:** Without the benefit of capital appreciation of a property, and the ability to use it as collateral for loans, tenants are particularly likely to lack the capital needed to make major improvements to their homes.
- 5) **Lack of Payback:** Proving payback for apartments can be especially difficult, as some benefits (e.g. capital appreciation due to improvements) accrue to the landlord, while others (e.g. reduced energy costs) are gained by the tenant. There needs to be a clear model for both parties to earn sufficient payback before they will invest time, money, reputation, etc, in making changes.

These pains might be relieved by:

- **Focused Communication “Packs”:** Communications materials need to be couched in terms relevant to tenants, and address the issues most relevant to them.
- **Connect to Similar People / Community:** It can help a lot to give examples of how other, similar blocks of apartments have solved similar challenges.
- **Funding Schemes:** Appropriate finance, either direct for the tenants or for the landlord to make improvements, can be crucial for Apartment Dwellers.

So again, a service to support Apartment Dwellers needs to set out clear **Defined Pathways** to show the options available, and the steps which must be taken to achieve them, with **Assured Support at Each Point in the Journey**.

## 5.6. People in Fuel Poverty

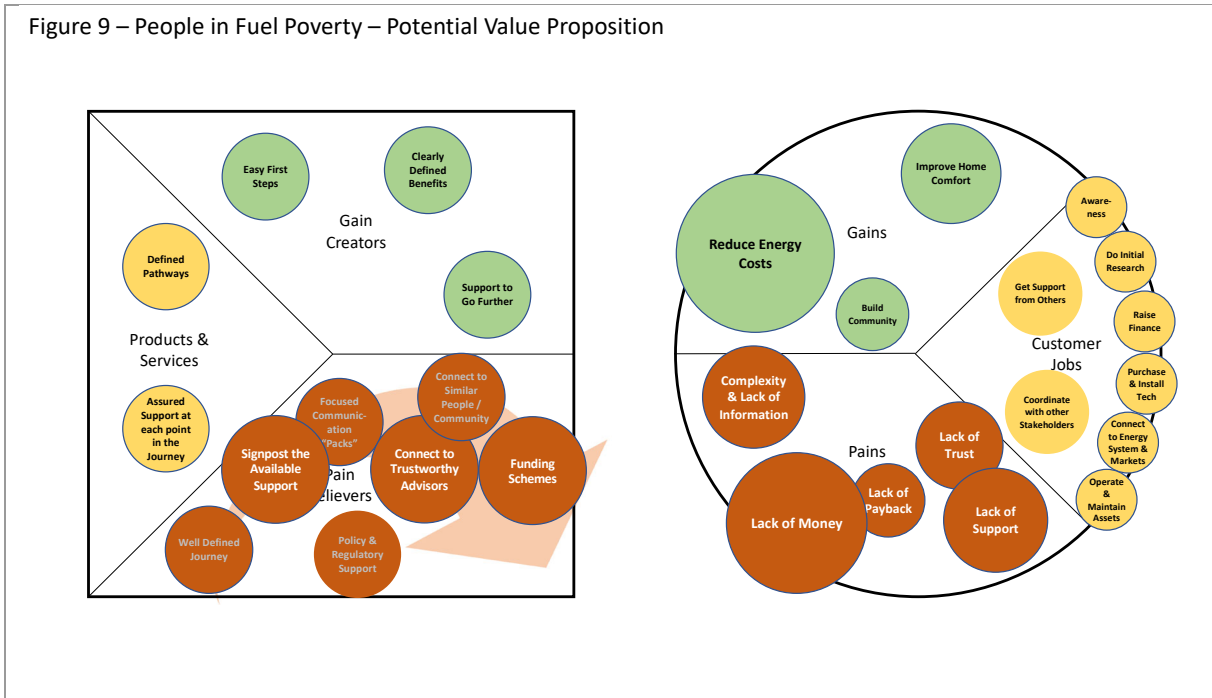


Figure 9 Value Proposition Canvas – People in Fuel Poverty

We developed this persona to explore the issues of fuel poverty as they relate to prosumerism. People in Fuel Poverty, by definition, do not have a lot of spare money to invest in new equipment, and neither do they have the credit rating necessary to raise loans. They may well be tenants, with limited control over the fabric of their homes. Some will have social landlords who are amenable to the goals of prosumerism, but other landlords will be less attracted to such goals.

People in Fuel Poverty may be every bit as likely to care about the environment and community as anyone else, but their motivations will also have strong emphasis on:

- 1) **Reduce Energy Costs:** By definition, energy costs are a problem for People in Fuel Poverty, so reducing them is likely to be a major driver.
- 2) **Improve Home Comfort:** People in Fuel Poverty often live in homes that suffer from problems of drafts, lack of insulation, etc. Their inability to afford heating compounds these problems. So improving comfort can be a significant attraction.
- 3) **Build Community:** Many People in Fuel Poverty live in high density housing, so building a greater sense of community and support can also be a significant benefit.

These motivations might be enhanced by “gain creators” similar to those described earlier – Clearly Defined Benefits, Easy First Steps and Support to go Further.

The key barriers and pain points for People in Fuel Poverty are likely to include:

- 1) **Lack of Money:** Again, more or less by definition, these people lack the money to make major investments in new systems and technology.

- 2) **Lack of Support:** People in Fuel Poverty may not be an attractive target for commercial support services, pre-sales support from equipment manufacturers, etc. Although there are a range of groups that do support them, these may lack the specialist expertise needed to choose the appropriate technologies and services.
- 3) **Lack of Trust:** Many People in Fuel Poverty do not trust many of the companies and institutions active in the energy system, so may be reluctant to engage with them.
- 4) **Complexity and Lack of Information:** As with the other personas, People in Fuel Poverty can struggle to navigate this complex space and find the information they need.
- 5) **Lack of Payback:** People in Fuel Poverty need to preserve what financial reserves they have. So they need strong assurance that anything they spend will deliver a reasonable return.

These pains might be relieved by:

- **Signpost the Available Support:** People in Fuel Poverty need to be clear and relevant signposts to the support available to them, e.g. to help overcome barriers around trust and complexity.
- **Connect to Trustworthy Advisors:** Again, trust is a key factor – People in Fuel Poverty need to be given confidence that they can trust the people they are dealing with.
- **Funding Schemes:** Access to finance is a significant barrier to People in Fuel Poverty. They need financing schemes that are tuned to their needs and circumstances.

As with the other personas, a service to support People in Fuel Poverty needs to set out clearly **Defined Pathways** to show the options available, and the steps which must be taken to achieve them, with **Assured Support at Each Point in the Journey**.

## 6. Research Findings

Partners undertaking the six pilots informally tested the personas and value propositions with participants in their pilots. The table below illustrates the outputs from this research. The findings from the research generally confirmed that the models developed in the previous sections of this report were reasonable. Undertaking this research also helped us to clarify and refine these models.

### Summary prosumer interview

#### Transfo Zwevegem

Process	Write down the proces(ses) and those things that are ‘top of mind’ in people’s prosumer journey.  Financially was the most important statement that people made when they were asked why they wanted to get solar panels. On the other hand was the environment also very important.
Chronology, cause & effect	Most of the people made the decision by talking to other people so mouth to mouth advertisement. The other people used the internet to find more information and most of the time just asked company’s. Not a lot of people chose the most cheap company but most of the time just the company with the best connection and quality.
Thresholds & facilitating factors	People are very worried because of the changes that the government made financially. They feel really disappointed that they are being punished for helping the environment. Also there were some people who would have chosen another company because they weren’t very happy with the way things went.
Current attitude	Most of them are happy with the solar panels and they see the changes in the electricity bills. Some of them aren’t super happy because of the financial changes that the government made. Also the most of them would want to be able to store the energy so that it can be used in the winter or with their neighbours,....
Future expectations	Most of them hope to have more possibilities to help with the environment and they also hope that the government will keep supporting people who want to help change the world by using alternative ways to generate energy. Also there should be more communication about solar panels, etc... so that people know what they can do and better not do.

More detailed consumer research to test the Prosumer Journey, Pains and Gains against a wider audience was also planned, but unfortunately this had to be cancelled when the project partner (Southend-on-Sea) due to lead the research withdrew from EMPOWER 2.0 at a late stage.

## 7. Potential Business Models

Having [partially] validated and refined the prosumer models and value propositions through the research described in the previous sections, we developed a Business Model Canvas<sup>1</sup> for each of the value propositions of section 5. This Business Model Canvas outlines a possible model for an organisation to deliver the support required by this prosumer persona. As with section 5, support could be provided by a range of different organisation types and business models, so this set of Business Model Canvases cannot hope to be definitive. However, the set of business models can give a reasonable view of the types of services and business models that will be required to support growth of prosumerism, providing a firm basis for the integrated model developed at the end of this section.

This section describes the six Business Model Canvases developed by the EMPOWER2.0 partners.

### 7.1. Starting the Journey

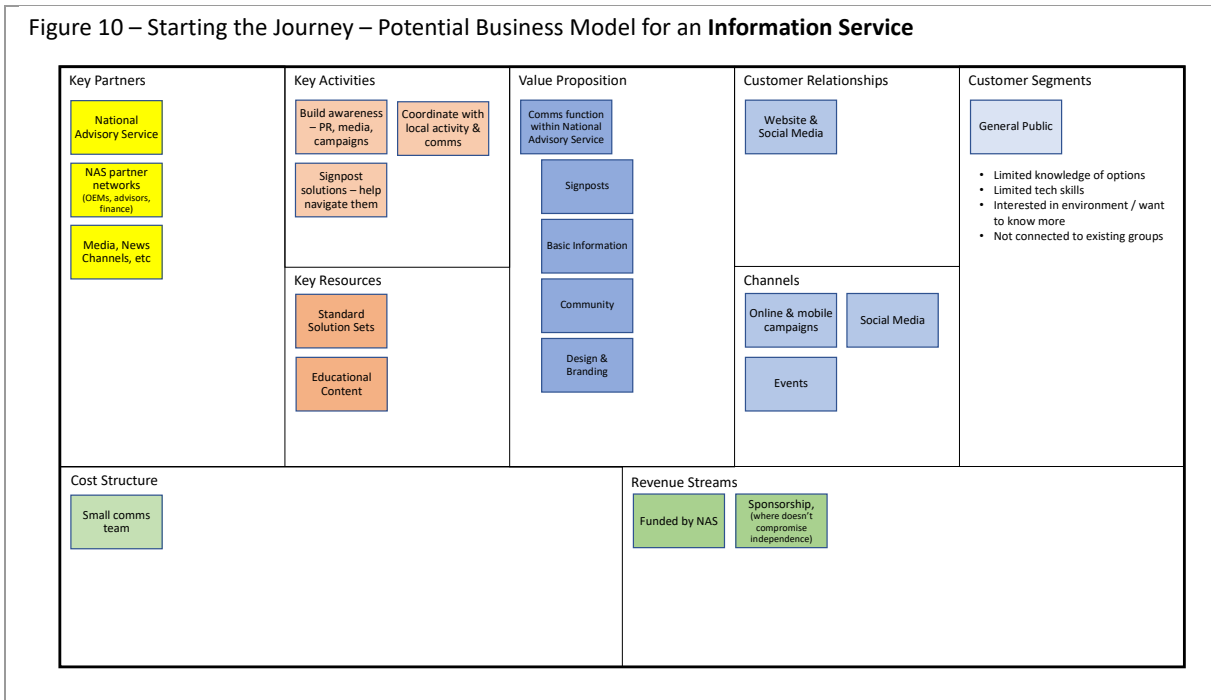


Figure 10 Business Model Canvas to support Persona 1: Starting the Journey

People who are at the start of the journey to become prosumers need information on the options available to them, the reasons to become a prosumer, what this entails, etc. This could be provided by a communications function within the National Advisory Service described in the following sections. Key aspects of this communications function might include:

<sup>1</sup> <https://www.strategyzer.com/canvas/business-model-canvas>



- **Target Audience:** The unit targets the general population. It makes no assumptions about people's technical skills, connection to existing groups in the community or environmental organisations, etc, but rather develops and delivers general messaging that will be interesting to anyone with a general interest in the environment and a desire to know a little more.
- **Channels:** We have assumed that digital media provide the most cost effective channels for this unit – online and mobile campaigns, social media, websites, etc. These might be supplemented by participation in events and festivals, and by working with news media and similar content delivery partners.
- **Value Proposition:** This is essentially an information service. It provides basic information on the drivers for prosumerism – environmental issues, energy costs and resilience, home comfort, etc – with background content on the current situation and context, and supported by inspiring and informative examples of actions that people and communities can take. It then signposts next steps that people can take to begin and progress along the path to prosumerism. It also supports other elements of the National Advisory Service and its networks of advisors, solution providers, etc, by providing clear guidance on branding, communication design, etc, so that their communications all work together to build a coherent, consistent and effective body of messaging for potential prosumers.
- **Activities and Resources:** The main activity for this unit is to build awareness of prosumerism and the ways it can address issues such as the cost of energy, climate change, etc. It builds content to showcase solutions that might be relevant to prosumers, and runs campaigns to highlight the issues and ways in which prosumerism can address them. It also reacts to significant national and regional events, helping people see the relevance of prosumerism to the things going on in their daily lives, and using these as hooks to signpost potential solutions from the toolkit supported by the advisory service. Finally, it advises other groups within the advisory service and its networks of partners on how to make their own communications more effective. Its key resource as it does all this is the body of content about potential pathways and solutions for prosumers, educational materials, etc, that it will build up over time.
- **Partners:** The unit will work closely with the rest of the advisory service and its partner networks, to provide the support outlined above. It will also build links to key media outlets, news media, etc, to give it good channels to disseminate its messages and track relevant events.
- **Cost Structure and Revenues:** We envisage that the unit would be composed of a small team of communications specialists, funded by core funding for the National Advisory Service. There might also be scope to earn some revenue from sponsorship and advertising, but this would need to be done very carefully to ensure that the independence of the team is not compromised.

## 7.2. Homebuilders

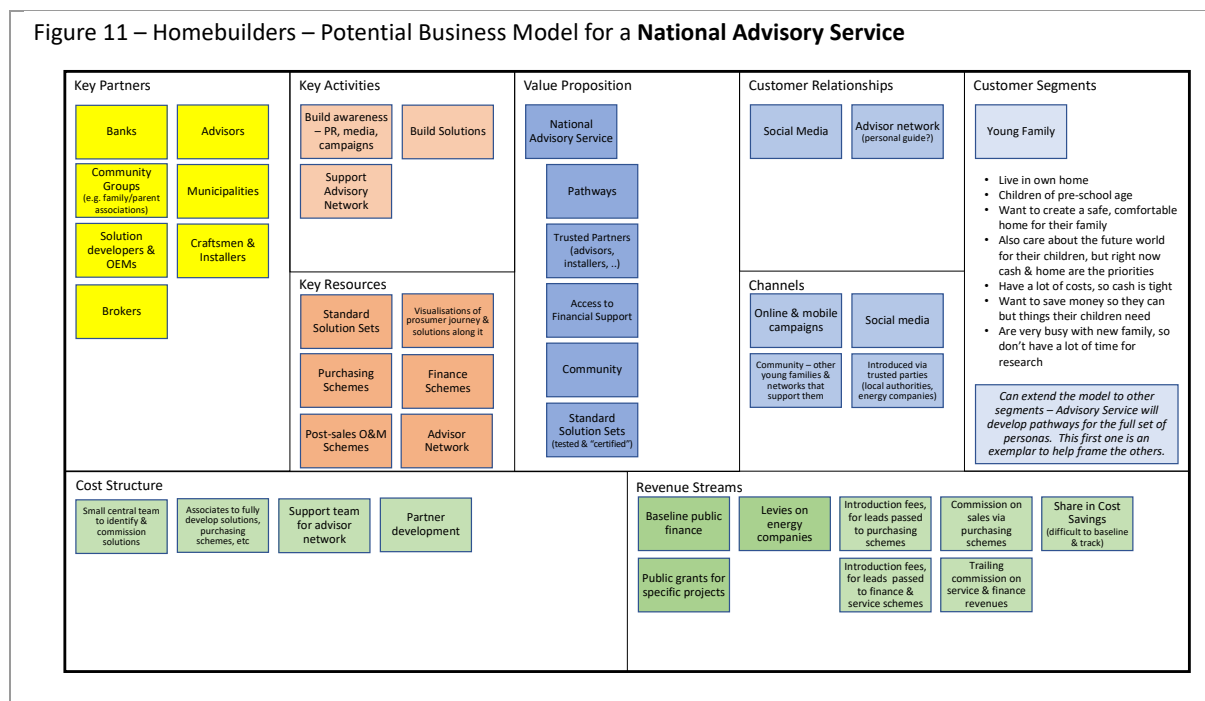


Figure 11 Business Model Canvas to support Persona 2: Homebuilders

Homebuilders are a key audience for support and advice on the path to become prosumers. As we developed our thinking during EMPOWER2.0, a structure for a National Advisory Service to support Home Builders and the other groups described above (Environmental Champions, Community Builders, Apartment Dwellers, People in Fuel Poverty) emerged. Key aspects of this service in its support for Homebuilders include:

- Target Audience:** Homebuilders live in their own home. We have built the persona to focus on young families – people with children of pre-school or early school age. Their primary goal is to build a safe, comfortable home for their children. This may extend to longer term concerns about passing on a world that is clean and safe, but the immediate environment of the home is the first priority. Starting a family brings many new costs and financial pressures, so Homebuilders may not have a lot of spare money to spend, and anything that helps reduce their costs will be welcome. Starting a family also entails a lot of activity to look after their children, interact with other people involved with educating and supporting their children, etc, so Homebuilders are unlikely to have a lot of time to engage in research into prosumerism and learn about their options – they need clear, simple advice that can be assimilated easily.
- Channels:** As with other groups, social media provides a key channel to Homebuilders. However, there is also a strong route via the network of services that is built around young families – nurseries, health services, schools, etc, and the communities that grow around them. So the advisory service will need to build links to and content for these communities. There is also good scope for parties such as local authorities and energy companies to introduce Homebuilders to the service and its content, as they are often well placed to recognise people as they move into this life stage.

- **Value Proposition:** The service provides Homebuilders with clear pathways showing simple actions they can take to become prosumers, with clear and compelling reasons for why they should act. It aims to become a source of trusted information on the options available to people, supported by interesting and relevant case studies and suchlike, and set out in a clear, easily accessible manner. It supports these pathways with the other elements people need to take action – links to trustworthy advisors, equipment installers, etc; easy access to financial support; standard solution sets that make it easy for people to choose the best option for their circumstances; social networks with similar people to share experience and provide mutual support.
- **Activities and Resources:** The service’s core activity is to develop and maintain solution sets for Homebuilders. It monitors and researches issues relevant to Homebuilders and identifies technologies, services and products that can help address these issues. It then performs a vital quality assurance role to ensure that solution sets (encompassing products plus the services necessary to finance, install, maintain and use them) are well matched to Homebuilders’ needs and that the product and supply chain can be trusted. It may then bring selected products and services into the advisory service’s portfolio, provide trustmarks or support other organisations to provide trustmarks, etc, to help address people’s concerns about the trustworthiness of equipment manufacturers, installers, maintainers, etc. It supports this core activity with communications to build awareness of the solutions and the issues they address, and support for its network of advisors so that they understand the solutions and position them correctly with potential prosumers.

Its core resource as it does this is the catalogue of solution sets that it will build and refine over time, including both the equipment and the services needed for Homebuilders to buy and use it (advice, installation, financing, purchasing schemes, maintenance, etc).

- **Partners:** The service works with a wide range of partners to build and deliver the solution sets it identifies – financial institutions to provide financing schemes, equipment manufacturers, installers and craftspeople, advisors, etc. It also works with community groups, municipalities and local authorities, and similar bodies in order to build links to Homebuilders so it can understand their concerns and communicate possible prosumerism solutions to them.
- **Cost Structure and Revenues:** The service is probably composed of a small core team of experts to scan the horizon, undertake research, and identify potential solutions. It might then commission associates to develop specific solutions, defining financing and purchasing schemes, etc. (These associates might well be drawn from the service’s advisor network, so the service also invests in developing and extending this network.) The cost for this team is likely to be covered by government funding in the first instance (perhaps derived from sources such as levies on energy companies), but there may be scope to supplement this with introduction fees and commissions on the services and solutions it recommends. This would need to be done in a way that ensures the independence of the service is not compromised, so that the trustmarks it offers remain valid in the eyes of potential prosumers.

### 7.3. Environmental Champions

Figure 12 – Environmental Champions – Potential Business Model to **Support a Network of Environmental Activists**

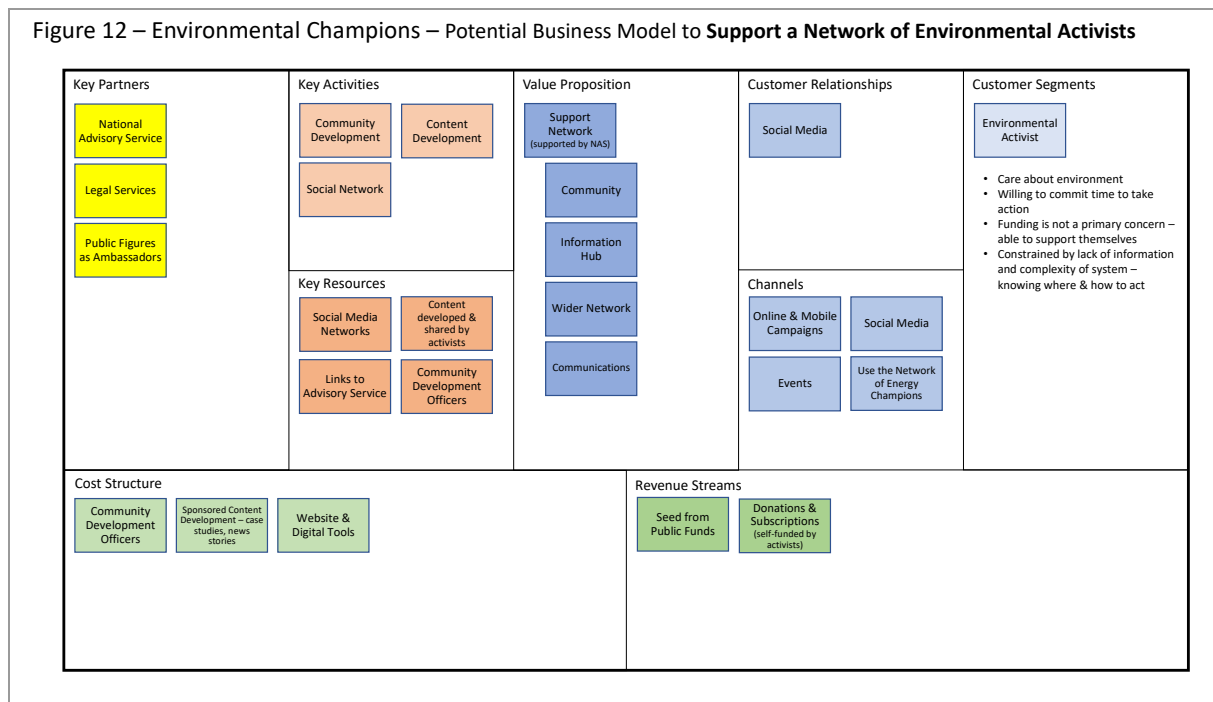


Figure 12 Business Model Canvas to support Persona 3: Environmental Champions

Environmental Champions would be another key audience for a National Advisory Service to support people on the path to become prosumers. Key aspects of this service in its support for Environmental Champions include:

- Target Audience:** The model targets environmental activists – people who care about the environment and are willing to commit time and effort to take action. Funding is important but not necessarily their primary concern – they may be able to support themselves for many activities. Information may be a bigger constraint, as the complexity of the energy system and the technologies and solutions it encompasses can make it very difficult for them to know where and how to act to achieve the best impact.
- Channels:** Again, social media and associated digital channels are a key route to provide the information that environmentally-concerned prosumers need. This can be supplemented with a network of champions and events to provide inspiration and face-to-face advice.
- Value Proposition:** The value proposition is similar to that for Homebuilders – the service provides information about pathways and solutions, links to a network of advisers and solution providers, access to a network of similar people. It also provides support to help them build their own community, building from the time and commitment they have by providing communications materials, coaching & training, access to events and media, etc.
- Activities and Resources:** Again, this is very similar to that for Homebuilders – the service develops and disseminates solutions and supporting content such as case studies, etc. It also

supports activists to develop their own communities, e.g. by providing support and advice on community development. It might include a small number of Community Development Officers to do this.

- **Partners:** The service builds from the same network of advisors, solution developers, etc, as that for Homebuilders. It complements this with a network of public ambassadors to support activists in their communications, and possibly with access to legal and regulatory advisors to help people deal with the complexities of the energy system in their campaigns.
- **Cost Structure and Revenues:** Again, a small core team might be supplemented with associates and partners and funded by central funding. This could be supplemented with subscriptions from activists, e.g. to fund events or to build local communities and networks.

## 7.4. Community Builders

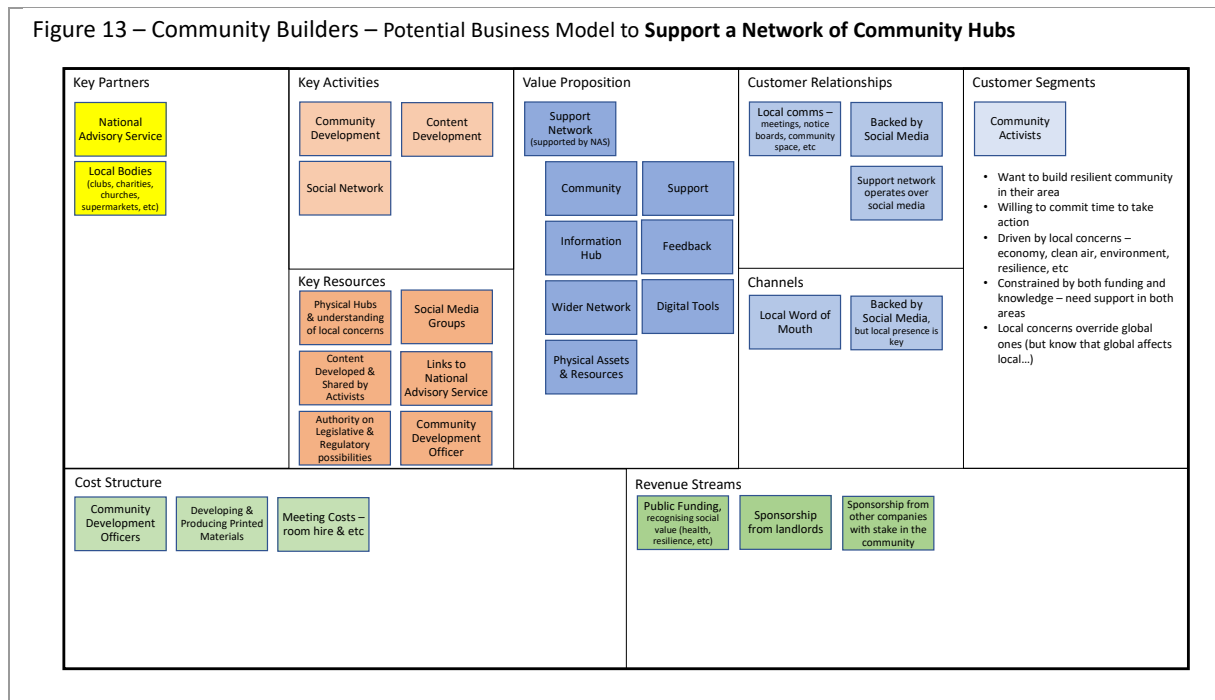


Figure 13 Business Model Canvas to support Persona 4: Community Builders

Key aspects of a National Advisory service to support Community Builders, another key audience, could include:

- **Target Audience:** This model targets people whose primary concern is to build community within their local area, driven by local concerns such as clean air, community resilience, natural environment, local economy, etc. As with environmental activists, they are willing to commit time and effort to take action and funding is not necessarily the primary concern, although it will always be important. Prosumerism and the energy system may be good topics around which they can build community interest and action, although local concerns will tend

to dominate national and global ones for this group. Their primary need is information and support about how to act to build their community.

- **Channels:** Although social media and associated digital channels are still an important channel, local presence is also important to this group. Local word-of-mouth will be an important communication mode for them, and they will value local meetings, notice boards, community spaces, etc.
- **Value Proposition:** The value proposition is similar to that for Homebuilders and Environmental Champions – the service provides information about pathways and solutions (focused on the concerns of this audience), links to a network of advisers and solution providers, access to a network of similar people. Support for local community development is the core requirement, however – the service might also provide physical materials to support community engagement, access to places to hold meetings, seed funding for starting up local groups, coaching and training on community development, etc.
- **Activities and Resources:** Again, this is very similar to that for Homebuilders and Environmental Champions, but complemented with activities and resources to support development of physical communities within each locality. Again, a small group of Community Development Officers may be important in support this activity.
- **Partners:** The service builds from the same network of advisors, solution developers, etc, as that for Homebuilders and Environmental Champions. It complements this with a network of other local institutions that can provide space for meetings, support and resources, and possibly even funding. For example, local clubs, churches, landlords and businesses might be engaged, as might the local branches of national businesses such as banks and supermarkets.
- **Cost Structure and Revenues:** Again, a small core team might be supplemented with associates and partners and funded by central funding. Building a network to local and national businesses means that this core funding may be supplemented with financial and in-kind assistance (e.g. provision of meeting space, printing services, advisors, etc) from this network.

## 7.5. Apartment Dwellers

Figure 14 – Apartment Dwellers – Potential Business Model to Support a Network of Renovation Coaches

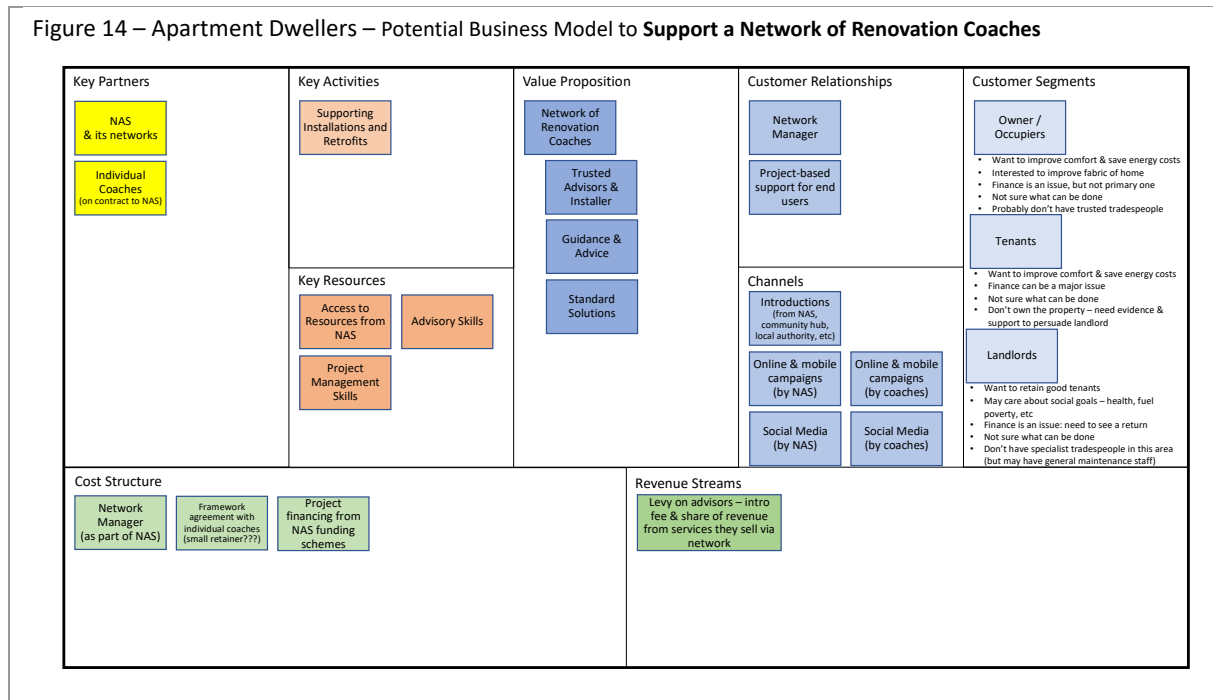


Figure 14 Business Model Canvas to support Persona 5: Apartment Dwellers

Key aspects of a National Advisory service to support Apartment Dwellers, another key audience, could include:

- Target Audience:** This model targets people who live in flats, apartments and other multi-tenancy buildings, recognising that they have some distinct needs compared to individual home owners, e.g. in the need to coordinate building activities with other people in the block, and to work with landlords and providers of common services. The audience can be further segmented into three groups – owner occupiers (with an interest in improving home comfort and also in improving the fabric and value of their home), tenants (who are also interested in comfort but cannot benefit from growing the value of the home) and landlords (who may be more interested in growing the value and potential for rental income of their property than in improving its comfort and energy efficiency per se). All groups have a common interest to navigate the complexities of prosumerism in order to improve the aspects they care about, and to find trustworthy craftspeople and solution providers. (Larger landlords may already have maintenance staff and similar tradespeople, but these probably lack the specialist expertise needed to deal with technologies such as PV, batteries, heat pumps, etc.)
- Channels:** Again, although social media and associated digital channels are an important channel, physical networks will also be important for this group, e.g. to coordinate activity with other people in their block of apartments. So the service will need to work through its network of advisors, partners and community hubs to make the necessary connections. It may also need to build a network of project managers within its advisors, as some works on blocks of apartments may grow into substantial projects. This all suggests that the service may need to recruit a specialist network manager to support these channels.

- **Value Proposition:** The value proposition is much more physical than for Homebuilders and Environmental Champions – the service provides a network of Renovation Coaches to help Apartment Dwellers identify action they can take to improve their homes, engage with their neighbours and landlords, manage renovation projects, etc. So as well as the standard solution sets, guidance and advice it provides to all target groups, the service provides links to and funding for this trusted network of Renovation Coaches.
- **Activities and Resources:** The service focuses on physical activity – Renovation Coaches support people to manage installations and retrofits to their properties. This includes helping people understand the issues and options, coordinate with landlords and neighbours, identify solutions, access finance, purchase equipment, find and manage installers, set up maintenance contracts, connect to the energy system, etc. So as well as the standard solution sets and networks of solution providers and installers, coaches must bring strong project management skills.
- **Partners:** The service builds from the same network of advisors, solution developers, etc, as that for other target groups. It complements this with a network of Renovation Coaches. These might be subcontractors, working under a framework agreement or similar contractual structure, or they might be independent parties who are certified by the service but earn their revenue through fees from the Apartment Dwellers.
- **Cost Structure and Revenues:** Again, a small core team might be funded by central funding. This might include analysts to identify and develop solutions, as above, and a network manager to recruit and manage the network of Renovation Coaches. The Renovation Coaches might then be funded through a variety of schemes, combining central and grant funding (allowing them to be paid via a framework agreement) and project financing for individual renovation schemes (where the apartment dwellers pay the coach, possibly subsidised by funding from the central service). As the service grows, it might be able to become self-funding, e.g. by charging a small levy to coaches for their certifications and/or to renovation projects supported by the coaches.



## 7.6. People in Fuel Poverty

Figure 15 – People in Fuel Poverty – Potential Business Model for a Policy Advisory Unit

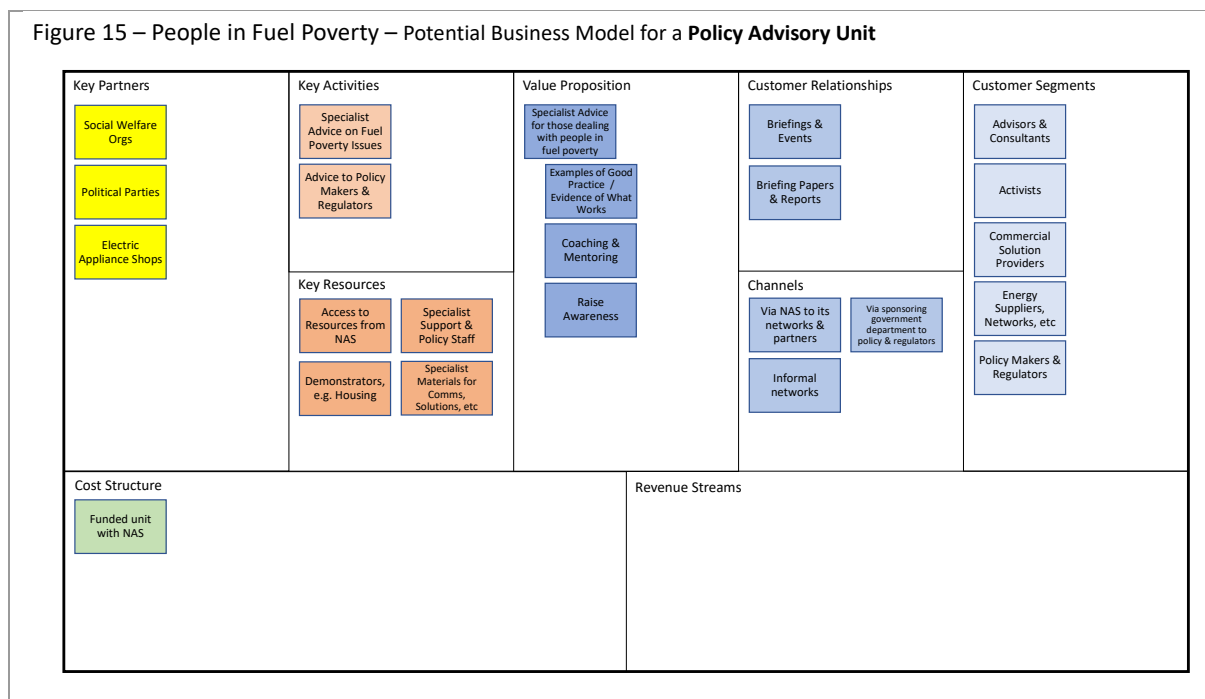


Figure 15 Business Model Canvas to support Persona 6: People in Fuel Poverty

People in Fuel Poverty, the final target group, might require a different type of support from the National Advisory Service. There are already many organisations, public sector and not-for-profit, that aim to support people in fuel poverty and vulnerable circumstances, so building yet another group to support them directly may not be the best approach. Instead, we have suggested that a unit within the National Advisory Service focus on gathering evidence of how prosumerism can be relevant to and helpful for this group, and on making this evidence available to policy makers and other organisations. Key aspects of this unit include:

- Target Audience:** The service provides advice to other stakeholders in the network – advisors, activists, commercial solution partners, energy companies (suppliers, networks, etc) and, perhaps most importantly, policy makers and regulators. It builds from the experience and intelligence the National Advisory Service gains in working with all target groups in the above services to develop evidence on the issues that affect People in Fuel Poverty and how prosumerism can address these issues, and then brings this evidence to its target groups.
- Channels:** It will probably communicate primarily through briefings, events, policy papers and similar. It is targeting a relatively small group of advisors, policy makers and intermediaries, so these means and the informal networks it will build with them will probably be key to its success.
- Value Proposition:** The value proposition is one of specialist advice and support to people who understand the sector but are not specialists in issues of fuel poverty. This encompasses raising awareness of the issues, providing examples of good practice and evidence of what works, and possibly providing coaching and mentoring to the relevant parties.

- **Activities and Resources:** The unit focuses on building evidence of what works to address fuel poverty, and then on packaging this into briefings and suchlike to support policy makers, advisers, etc. Its core resource as it does this is the body of evidence the National Advisory Service can obtain by working with its networks to deliver solutions to the above target groups.
- **Partners:** The service builds from the same network of advisors, solution developers, etc, as described above. It may also build networks with other groups able to influence the agenda on fuel poverty or develop products that help address the issues of fuel poverty, e.g. political parties, social welfare organisations, appliance manufacturers, NGOs, etc.
- **Cost Structure and Revenues:** This would be a small group of specialist policy advisors, funded from central funding for the National Advisory Service.

## 7.7. Integrated Support Structure

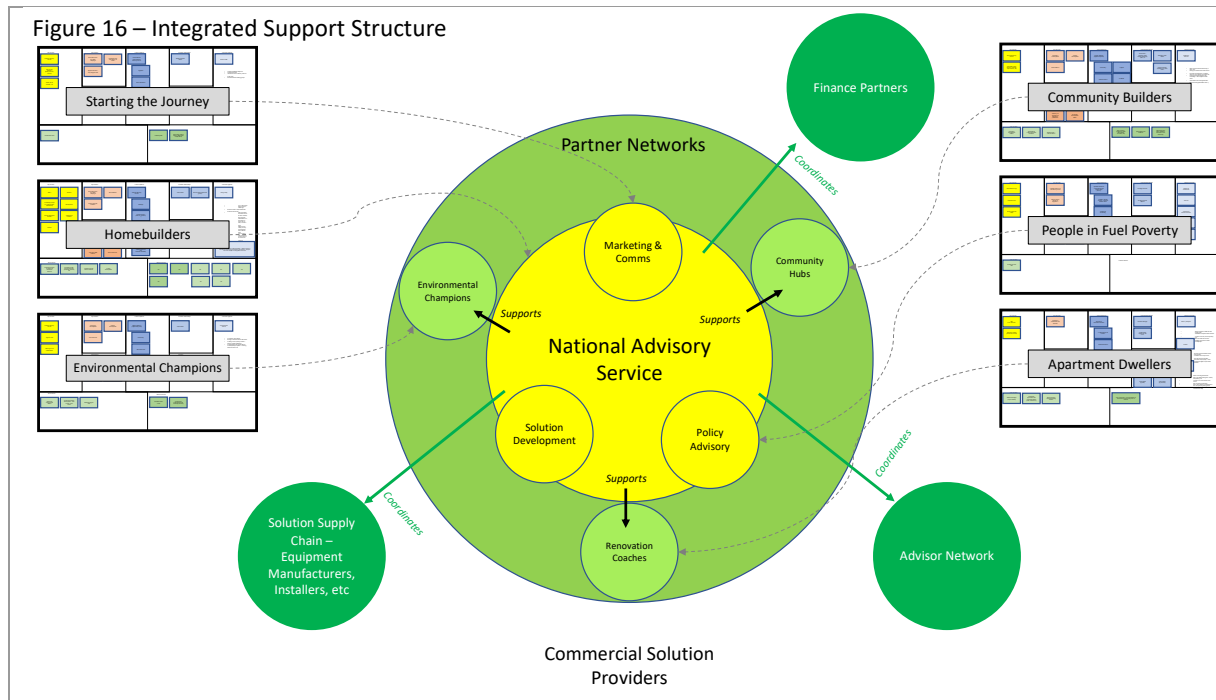


Figure 16 Integrated Model for Organisation(s) to support Prosumers

In analysing the six organisational business models outlined above, we have developed a model for an integrated ecosystem of public and private bodies to support people on the journey to become prosumers. This model identifies:

- 1) A **core public body** (or network of bodies) to package trusted solutions and support other parties to disseminate and deliver them. This body would include a small management team, and support functions such as finance, HR, etc, but its focus would be in building and operating specialist units for:
  - **Solution Development:** Researchers and analysts to scan the horizon and develop the solutions identified in the above business models, plus network managers and community development officers to support the service’s partner networks to deliver these solutions. This includes the solution development function described in section 7.2 and extended in sections 7.3-7.5.
  - **Policy Advisory:** The specialist policy unit described in section 7.6.
  - **Communications:** The specialist communications team described in section 7.1.
- 2) Networks of **publicly-supported advisors** to support prosumers as they engage with the trusted solutions. The core body would work mostly through three networks of service providers that it would subcontract to provide services for:
  - **Environmental Champions:** These support environmental activists and suchlike to campaign for and help people become prosumers in order to address their environmental concerns, as outlined in section 7.3. This is largely a conceptual and inspirational activity – Environmental Champions help inspire people to act.

- **Community Hubs:** These support people in their local communities to identify practical solutions and act to implement them, as outlined in section 7.4. This provides a local, on-the-ground face for the National Advisory Service – it will be accessible to communities through a network of physical hubs.
  - **Renovation Coaches:** These support people to implement solutions, helping them in the ways described in section 7.5. This gives a hands-on, project based aspect to the National Advisory Service – it is helping people to implement solutions, and then using the learning from this practical activity to inform refinement of the solutions, policy recommendations, etc.
- 3) **Private partners** to develop and deliver solutions, finance them, and provide specialist expertise. Beyond the networks of subcontracted champions, hubs and coaches, the service will work with private partners who can build and deliver solutions for prosumers. It will need to build links to:
- **Advisors:** A network of specialist advisors who can help people navigate the complexities of prosumerism, identify solutions to the issues that concern them, and work with the commercial supply chain to install and support their solutions. By working with the National Advisory Service, these advisors gain access to the solutions it packages, and trustmarks to give people confidence to engage with them.
  - **Finance Partners:** Financing is a key concern for many people who want to become prosumers. The National Advisory Service will therefore work with financial institutions to develop financing packages (e.g. loans, grants, guarantees) for the sector.
  - **Solution Supply Chain:** Commercial organisations that design, manufacture, install, maintain, integrate and operate the solutions relevant to prosumers, e.g. to design and build PV arrays and connect them to the energy system technically and commercially, or to undertake home retrofits and buy and install equipment such as heat pumps.

We have also developed a generic roadmap for implementing this support model, as illustrated in figures 17 and 18 below. These show 3 phases for implementing the core National Advisory Service and the two “circles” of networks that it seeds and supports:

Figure 17 – Summary Roadmap to build the National Advisory Service and its networks

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain			
National Advisory Centre	Solution Development	Establish Centre & Define Initial Solutions <small>(Analyse existing solutions &amp; practices and evidence on their effectiveness; select and refine solution sets; develop comms strategy; identify target partners &amp; begin discussions)</small>	Develop Solution Packages	Train coaches, hubs & advisors. Work with them & commercial partners to trial & deploy them. Gather feedback.	Scan for new solutions. Gather feedback. Refine solutions & commission new ones.		
	Marketing Comms		Develop initial stories & identify targets	Run initial campaigns	Respond to events. Refine and shape the messaging. Run ongoing campaigns.		
	Policy/Advocacy		Develop initial recommendations	Propagate recommendations through briefings, informal meetings, events, etc. Monitor markets, solutions, stakeholder concerns and so develop & refine recommendations.			
Partner Networks	Environments/Champions	Establish partnership management team for internal networks. Define how it works with champions, hubs & coaches.	Recruit / procure initial champions, hubs & coaches.	Train network on initial solution set. Support partners to develop & trial their messaging & services and link to other parties	Support and grow the network		
	Community Hubs						
	Innovation Clusters						
Commercial Solution Partners	Sellers/Supply Chain	Establish management team for external commercial networks. Define how it works with external parties, Terms & Conditions for Trustmarks, etc.	Build links to potential external partners.	Recruit & accredit initial partners.	Support champions, hubs, coaches and external network partners to trial & deploy initial solutions. Gather feedback.		
	Advisors						
	Finance						

Figure 17 Summary View of Generic Roadmap to Establish the Support Structures

Figure 18 – Detailed Generic Roadmap to build the National Advisory Service and its networks

(NB this is not a roadmap of specific policies needed – they are much discussed elsewhere. This is a roadmap for action: to build a body to help people make best use of existing policies, and to identify where new policy is needed.)

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain					
National Advisory Centre	Solution Development	Analyse available solutions and identify those that are well evidenced & assured	Develop initial solution sets – package available solutions	Train coaches and advisors	Build out the set of solutions	Collect feedback on solutions	Scan for new solutions	Collect feedback on solutions	Refine solutions & commission new ones
	Marketing Comms	Develop Comms strategy	Build partners & channels	Run initial campaigns	Develop additional stories, to cover all personas	Develop further stories and run campaigns	Respond to events & shape the messaging they generate		
	Policy/Advocacy	Analyse existing services & solutions across nations, identify shareable practices and their context of use	Develop initial recommendations	Propagate recommendations through briefings, informal meetings, events, etc	Monitor markets, solutions, stakeholder concerns; develop & refine recommendations	Propagate recommendations through briefings, informal meetings, events, etc	Monitor markets, solutions, stakeholder concerns; develop & refine recommendations		
Partner Networks	Environments/Champions	Identify potential champions	Recruit champions	Support champions to develop their messages and link to other parties	Support and grow the champion network	Support and grow the champion network			
	Community Hubs	Identify existing hubs, gaps in their capability, gaps in the network	Set up initial hubs (build from existing hubs)	Support hubs to develop their communities and help them deploy appropriate solutions	Support and grow the community hub network	Support and grow the community hub network			
	Innovation Clusters	Define scope & requirements and develop framework for their services	Procure coaches	Work with coaches to shape their services & build links to other parties	Support and grow the coach network	Support and grow the coach network			
Commercial Solution Partners	Sellers/Supply Chain	Engage with solution providers	Develop accreditations / trustmarks	Work with champions, hubs & coaches to trial & deploy solutions	Collect feedback on solutions	Scan for new solutions	Collect feedback on existing solutions	Refine solutions & commission new ones & trustmarks, etc	
	Advisors	Engage with existing advisors in the field	Develop accreditations / trustmarks and sign up advisors	Support and grow the advisor network	Support and grow the advisor network				
	Finance	Engage with finance providers	Develop accreditations / trustmarks	Work with champions, hubs & coaches to trial finance options	Collect feedback on finance options	Deploy finance options at scale	Monitor & refine financing options		

Figure 18 Detailed View of Generic Roadmap to Establish the Support Structures

- 1) **Build the institutions and networks:** First we build the service and its initial set of solutions:
  - o **Establish the National Advisory Centre.** Set up the core management team and organisational support functions (HR, Finance, etc) and establish its overall strategy and business plan.

- **Develop Solution Packages.** Identify and prioritise the issues that are relevant to prosumers and develop the first tranche of solutions that the service will support. This will largely involve assessing products (technology, finance, advisory services, etc) that are already available on the market, and packaging them into full solutions in a way that is accessible to most potential prosumers.
  - **Develop Initial Stories and Identify Targets.** Develop a communications strategy, prioritising the audiences the service will address, the messages it will aim to deliver and the channels it will use. Hence develop the initial tranche of messages.
  - **Develop Initial Policy Recommendations.** Identify and prioritise the aspects of prosumerism that are relevant to policy on fuel poverty, and hence frame an initial suite of policy recommendations.
  - **Establish Partnership Management Team.** Recruit a team to develop and manage the “close network” of champions, hubs and coaches, and define how this team will operate (e.g. processes and systems for procuring and managing partners).
  - **Recruit / Procure Initial Champions, Hubs & Coaches.** Recruit the initial groups of Environmental Champions, Community Hubs and Renovation Coaches. This probably entails setting up appropriate framework contracts and procuring people and/or organisations to undertake these functions.
  - **Establish Network Management Team.** Recruit a team to develop and manage the wider, more informal network of equipment manufacturers, installers, financial institutions, advisors, etc, that will ultimately build and deliver the solutions which the service supports. Define how this this team will operate (e.g. processes and systems for managing partner relationships and communications).
  - **Build Links to External Networks.** Begin to build links to this wide network, and to establish relationships with key solution providers.
- 2) **Deploy services at scale:** Then we begin to scale out the service, delivering services to the target groups by:
- **Train Coaches, Hubs and Advisors.** Train the service’s close partners in the solution packages it has developed and its methods for supporting prosumers to adopt them. Start initial projects to deliver the solutions and use learning from these projects to adapt the service’s solutions, training, etc.
  - **Run Initial Communications Campaigns.** Undertake initial campaigns to raise awareness about the prosumerism in general, and the National Advisory Service and its set of solutions and partners in particular.
  - **Begin to Propagate Policy Briefings.** Establish a regular framework of briefings on prosumerism and fuel poverty for policy makers, regulators, solution providers, etc.
  - **Train and support partners to deliver initial solution sets.** Set up training for the supply chain (advisors, installers, maintainers, etc) around the initial suite of solutions and hence begin to build a supply chain that can deliver the solutions in a reliable, trustworthy way.

- **Recruit and accredit initial commercial partners.** Identify and accredit partners for this supply chain.
  - **Support champions, hubs and coaches to link to and work with commercial partners.** Build links (e.g. via networking events) between the National Advisory Service's close partners (Environmental Champions, Community Hubs, Renovation Coaches) and the wider network of advisors, equipment manufacturers, installers, financial institutions, etc, and support them to work together to deliver the products and services that prosumers need.
- 3) **Refine and sustain the network:** Then once the service is established, we need to develop an ongoing process of refining and delivering the services it supports, through:
- **Scan for and develop new solutions.** The service will need to constantly scan the horizon to identify emerging solutions that might be relevant to prosumers. It will then need to prioritise these solutions and decide which ones to include within its portfolio, and hence commission any necessary development and packaging to make them suitable for prosumers. At the same time it will gather feedback from people's experience with existing solutions, using this feedback to refine the solutions and ultimately to decide when to retire solutions / replace them with newer ones.
  - **Run proactive and reactive campaigns.** The communications unit will run campaigns to continue to raise awareness about prosumerism and inform people about how to become prosumers, potential solutions for them, etc. It will also react to external events relevant to prosumers, ensuring that the role of prosumerism in addressing daily events is placed clearly on the national agenda.
  - **Gather evidence and develop new & refined policy advice.** The policy unit will also scan the horizon and monitor the activities supported by the service, using this to develop further evidence of what works to address fuel poverty and hence framing advice for policy makers, regulators, etc.
  - **Support and grow the network of champions, hubs and coaches.** There will be an ongoing need to support the close network of champions, hubs and coaches to deliver the solutions supported by the service, to learn about new solutions as they emerge, and to develop and grow this network over time.
  - **Support and grow the commercial partner network.** Likewise, there will be an ongoing need to build relationships with the wider network and to develop and grow this network over time.

## 8. Gap Analysis against Existing National Support

This section describes our analysis of the existing support structures for prosumers in each nation covered by the EMPOWER2.0 partners, mapped onto the integrated support model of section 7.7. It then identifies the implications of this analysis for roadmaps to implement the proposed support structure in each EMPOWER2.0 nation.

### 8.1. Netherlands

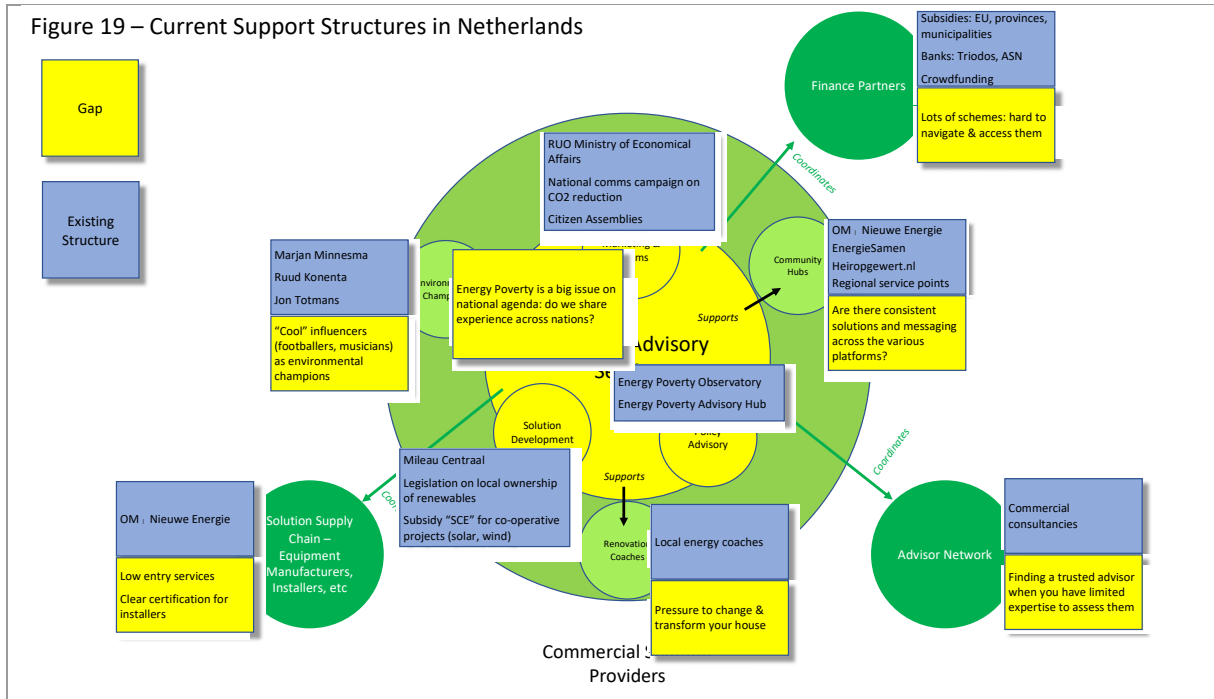


Figure 19 Current NL Support Structures

The EMPOWER2.0 partners identified the following strengths and gaps in coverage for the issues addressed by the proposed National Advisory Service amongst institutions in the Netherlands:

- Core Service:** Central government has driven initiatives around issues such as CO2 reduction, local ownership of renewables and subsidies for co-operative projects on solar and wind energy, supported by the Ministry of Economical Affairs. Institutions such as the Energy Poverty Observatory and Energy Poverty Advisory Hub, Mileau Centraal and Citizens’ Assemblies could provide a framework form which to build a coordinated National Advisory Service. So the Netherland already has a strong infrastructure from which to build. One question is whether experience from this infrastructure could be shared with other nations, and hence whether the National Advisory Service might be seen as part of a pan-European or even global network of such services?
- Environmental Champions:** Strong advocates for prosumerism are evident in academia and the environmental movement. However, there is perceived to be a gap in champions drawn from “cooler” sectors such as sports, music and entertainment?



- **Community Hubs:** There are many examples of community groups and platforms in the Netherlands, e.g. OM | Nieuwe Energie, EnergieSamen, Regional Service Points. One question is whether there are consistent solutions and messaging across these platforms? Diversity can be a strength where it enables different issues and perspectives to be addressed, but it might also confuse potential prosumers entering what is already a very complex set of issues?
- **Renovation Coaches:** Local energy coaches exist, but there is a lack of pressure on most people to transform their homes.
- **Advisor Network:** Many commercial and non-profit advisors exist. However, it can be difficult for potential prosumers to find a trusted advisor, as they lack the expertise necessary to be clear about what advice they need and to assess the strengths of the many different advisors who are available.
- **Finance Partners:** A wide variety of schemes are available, ranging from subsidies at EU, provincial and municipal level, to financial institutions such as Triodos and ASN, to crowdfunding. Again, it can be difficult for potential prosumers to navigate amongst all these schemes and to access the ones best fitted to their needs.
- **Solution Supply Chain:** Supply chains for many solutions are well represented, and visible on platforms such as OM | Nieuwe Energie. Solutions to make it easy for potential prosumers to enter the space may be more difficult to find, and a clear certification scheme for installers is lacking.

This suggests that key areas to be addressed in setting up a National Advisory Service in the Netherlands might include:

- **Integrating existing units into the core service:** The National Advisory Service could be built as a small, core team that works with and coordinates the activities of other units, developing aspects of their existing work to focus on the concerns of prosumers.
- **Building close networks around existing sites and regional service points:** Likewise, the “close network” of champions, hubs and coaches could be built from the existing networks of community hubs and local energy coaches, supplemented by developing relationships with a wider network of environmental champions. The National Advisory Service could help build resilience and coherence within these networks by providing access to its support for funding, solution accreditation, communications, etc.
- **Networking to existing service providers and solution supply chains:** Again, the National Advisory Service could provide a focal point for connecting to the web of advisors, technology manufacturers, installers, etc, needed by prosumers, and for developing a coherent, accessible view of the solutions it can provide.

Figure 20 – Roadmap for Netherlands

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain
National Advisory Centre	Solution Development	Establish Centre & Define Initial Solutions <b>Link to existing units such as Energy Poverty Advisory Centre. Build network with centres in other countries.</b>	Train coaches, hubs & advisors. Work with them & commercial partners to trial & deploy them. Gather feedback.	Scan for new solutions. Gather feedback. Refine solutions & commission new ones.
	Marketing & Campaigns	Develop Solution Packages Develop initial stories & identify targets	Run initial campaigns	Respond to events. Refine and shape the messaging. Run ongoing campaigns.
	Policy/Advisory	Develop initial recommendations	Propagate recommendations through briefings, informal meetings, events, etc. Monitor markets, solutions, stakeholder concerns and so develop & refine recommendations.	
Partner Networks	Environments/Champions			
	Community Hubs	Establish partnership management team for internal networks. Define how it works with champions, hubs & coaches.	Recruit / procure initial champions, hubs & coaches. <b>Build from existing sites and regional service points.</b>	Train network on initial solution set. Support partners to develop & trial their messaging & services and link to other parties
	Renovation Clubs			Support and grow the network
Commercial Solution Partners	Sellers/Supply Chain			
	Advisors	Establish management team for external commercial networks. Define how it works with external parties, Terms & Conditions for Trustmarks, etc.	Build links to potential external partners. <b>Build network with advisors, financial institutions, etc.</b>	Recruit & accredit initial partners.
	Finance		Support champions, hubs, coaches and external network partners to trial & deploy initial solutions. Gather feedback.	Support and grow the network. Work with it to develop, trial and accredit new solutions, financing options, etc.

Figure 20 Roadmap to improve prosumer support in NL

## 8.2. Belgium

Figure 21 – Current Support Structures in Belgium

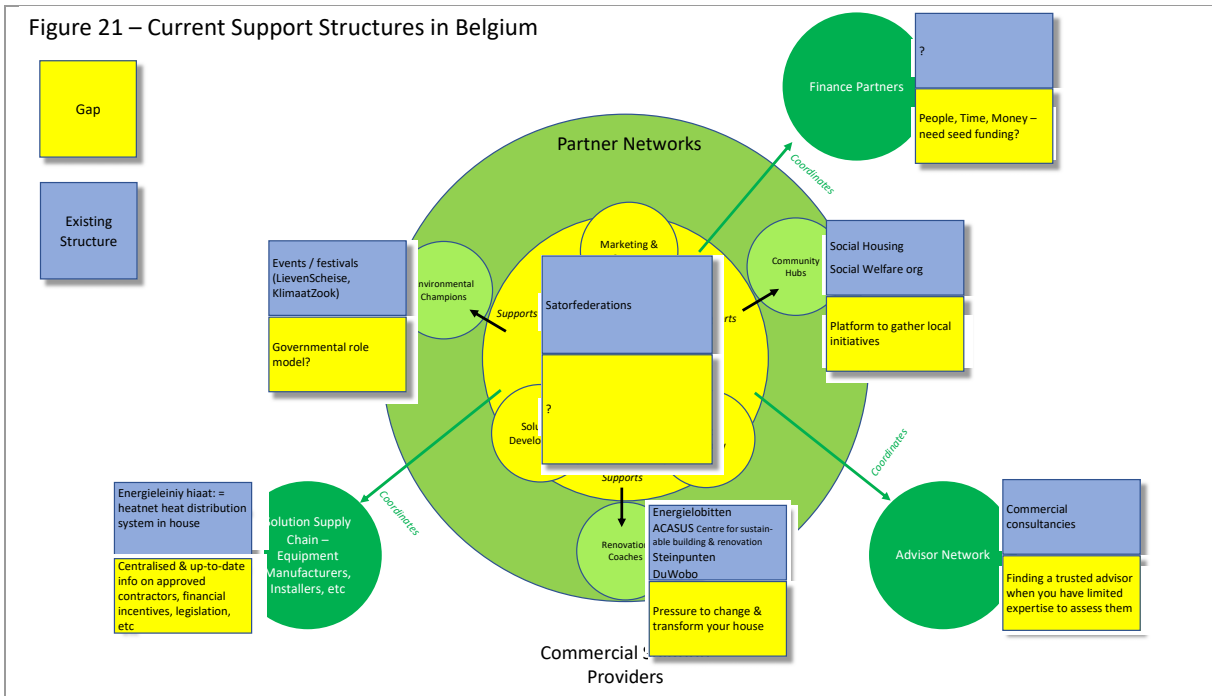


Figure 21 Current BE Support Structures

The EMPOWER2.0 partners identified the following strengths and gaps in coverage for the issues addressed by the proposed National Advisory Service amongst institutions in Belgium:

- **Core Service:** The EMPOWER2.0 partners identified some existing institutions, but perhaps lacked the knowledge of central government services to identify the full extent of existing support for prosumerism and similar issues?
- **Environmental Champions:** Festivals such as KlimaatZouk and LievenScheise help to provide inspiration for environmental and prosumer issues, so could be used as a starting point to build a network of champions. The EMPOWER2.0 partners could not identify a governmental role model for this.
- **Community Hubs:** There is existing support amongst social housing and social welfare organisations, but no clear platform to gather information on local initiatives.
- **Renovation Coaches:** Several strengths were identified here, e.g. ACASUS Centre for Sustainable Building & Renovation, Energielobitten, Steinpunten. Again, there is not a lot of pressure on people to change and transform their homes.
- **Advisor Network:** Again, many commercial and non-profit advisors exist, but potential prosumers often lack the expertise needed to find a good, trusted advisor.
- **Finance Partners:** A range of financial institutions and schemes exist, but people often lack the time and money needed to access them, so there is a need for “seed funding” for potential prosumers and community groups.
- **Solution Supply Chain:** Again, commercial product providers and supply chains exist, but there is no centralised, up-to-date source of information on approved contractors, financial schemes & incentives, legislative and regulatory needs, etc.

This suggests that key areas to be addressed in setting up a National Advisory Service in Belgium might include:

- **Establish a clear core service:** It was not clear to the EMPOWER2.0 partners which units / services within central government and associated institutions might best be used as a base from which to build the National Advisory Service. (This is information in itself: even if such units exist, activists in the field are not aware of them / they are not acting in a way that is relevant to such activists.)
- **Building close networks around existing centres of expertise:** There is a strong existing base of expertise in areas such as renovations, so this could provide the base for networks of coaches, champions and advisors.
- **Networking to existing service providers and solution supply chains:** Again, the National Advisory Service could provide a focal point for connecting to the web of advisors, technology manufacturers, installers, etc, needed by prosumers, and for developing a coherent, accessible view of the solutions it can provide.

Figure 22 – Roadmap for Belgium

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain		
National Advisory Centre	Solution Development	Establish Centre & Define Initial Solutions Not clear what existing units to build from?	Develop Solution Packages Develop initial stories & identify targets Develop initial recommendations	Train coaches, hubs & advisors. Work with them & commercial partners to trial & deploy them. Gather feedback. Run initial campaigns Propagate recommendations through briefings, informal meetings, events, etc. Monitor markets, solutions, stakeholder concerns and so develop & refine recommendations.	Scan for new solutions. Gather feedback. Refine solutions & commission new ones. Respond to events. Refine and shape the messaging. Run ongoing campaigns.	
	Marketing & Campaigns		Establish partnership management team for internal networks. Define how it works with champions, hubs & coaches.	Recruit / procure initial champions, hubs & coaches. Build from centres of expertise such as ACASUS	Train network on initial solution set. Support partners to develop & trial their messaging & services and link to other parties	Support and grow the network
	Policy/Advisory		Establish management team for external commercial networks. Define how it works with external parties, Terms & Conditions for Trustmarks, etc.	Build links to potential external partners. Build network with advisors, financial institutions, etc.	Recruit & accredit initial partners. Support champions, hubs, coaches and external network partners to trial & deploy initial solutions. Gather feedback.	Support and grow the network. Work with it to develop, trial and accredit new solutions, financing options, etc.
Partner Networks	Environment's Champions					
	Community Hubs					
	Renovation Coaches					
Commercial Solution Partners	Sellers/Supply Chain					
	Advisors					
	Finance					

Figure 22 Roadmap to improve prosumer support in BE

### 8.3. Denmark

Figure 23 – Current Support Structures in Denmark

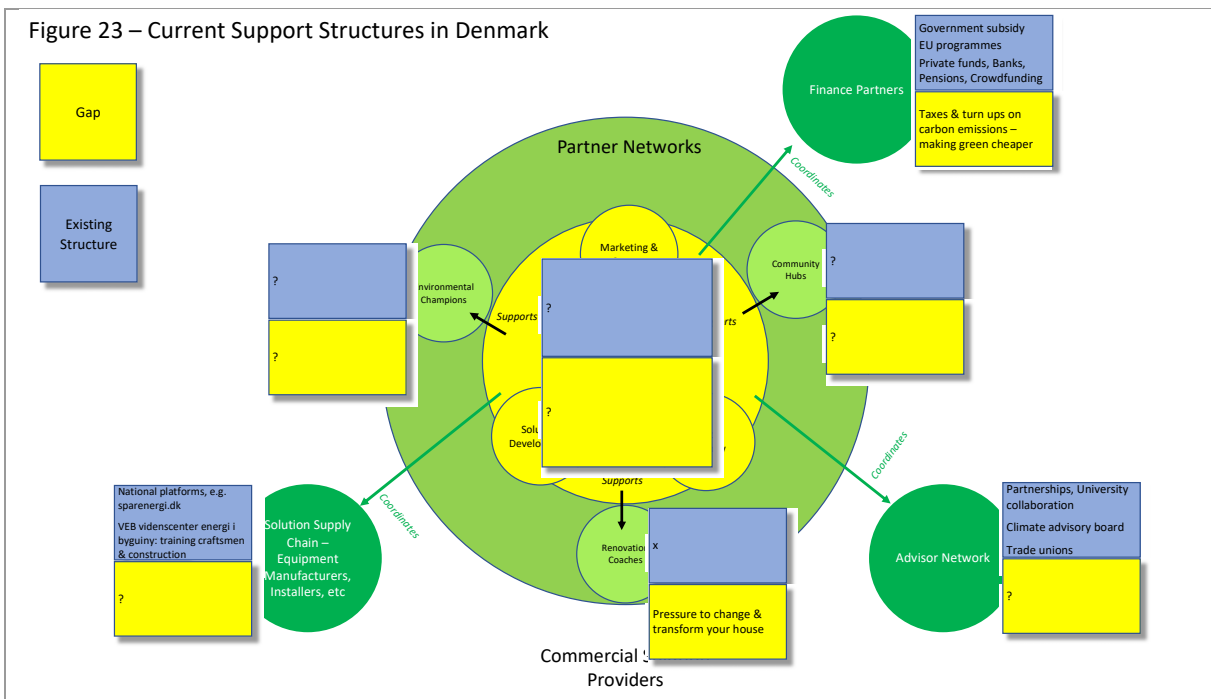


Figure 23 Current DK Support Structures

The EMPOWER2.0 partners identified the following strengths and gaps in coverage for the issues addressed by the proposed National Advisory Service amongst institutions in Denmark:

- **Core Service:** The EMPOWER2.0 partners lacked knowledge of central government support structures relevant to prosumerism.
- **Environmental Champions:** The EMPOWER2.0 partners lacked knowledge of existing networks and centres relevant to prosumerism.
- **Community Hubs:** The EMPOWER2.0 partners lacked knowledge of existing networks and centres relevant to prosumerism.
- **Renovation Coaches:** The EMPOWER2.0 partners lacked knowledge of existing networks and centres relevant to prosumerism.
- **Advisor Network:** As well as commercial advisors, advice is available from a number of partnerships and university collaborations. Trade unions can also be a source of advice.
- **Finance Partners:** Financing schemes are available from organisations such as banks, pension and other funds, crowdsourcing, etc. These could be strengthened by making more use of taxes and subsidies to make green solutions cheaper / increase the cost of carbon emissions.
- **Solution Supply Chain:** As well as commercial firms and their supply chains, national platforms such as sparenergi.dk and centres such as VEB (Videnscenter Energi Byguiny, providing training for craftspeople and construction staff) help develop and give information on potential solutions and their supply chain.

This suggests that key areas to be addressed in setting up a National Advisory Service in Denmark might include:

- **Establish a clear core service:** The EMPOWER2.0 partners lacked knowledge of existing networks and centres relevant to prosumerism to be able to advise in this area.
- **Building close networks around existing centres of expertise:** Centres of expertise such as universities and VEB could be used as the initial basis for a “close network” of champions, hubs and coaches.
- **Networking to existing service providers and solution supply chains:** Again, the National Advisory Service could provide a focal point for connecting to the web of advisors, technology manufacturers, installers, etc, needed by prosumers, and for developing a coherent, accessible view of the solutions it can provide.

Figure 24 – Roadmap for Denmark

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain	
National Advisory Centre	Solution Development	Establish Centre & Define Initial Solutions Not clear what existing units to build from?	Develop Solution Packages Develop initial stories & identify targets Develop initial recommendations	Train coaches, hubs & advisors. Work with them & commercial partners to trial & deploy them. Gather feedback. Run initial campaigns Propagate recommendations through briefings, informal meetings, events, etc. Monitor markets, solutions, stakeholder concerns and so develop & refine recommendations.	Scan for new solutions. Gather feedback. Refine solutions & commission new ones. Respond to events. Refine and shape the messaging. Run ongoing campaigns.
	Marketing & Campaigns		Establish partnership management team for internal networks. Define how it works with champions, hubs & coaches. Recruit / procure initial champions, hubs & coaches. Build from centres of expertise in universities, VEB, etc.	Train network on initial solution set. Support partners to develop & trial their messaging & services and link to other parties	Support and grow the network
	Policy/Advisory		Establish management team for external commercial networks. Define how it works with external parties, Terms & Conditions for Trustmarks, etc. Build links to potential external partners. Build network with advisors, financial institutions, etc.	Recruit & accredit initial partners. Support champions, hubs, coaches and external network partners to trial & deploy initial solutions. Gather feedback.	Support and grow the network. Work with it to develop, trial and accredit new solutions, financing options, etc.
Partner Networks	Environment's Champions				
	Community Hubs				
	Renovation Coaches				
Commercial Solution Partners	Sellers/Supply Chain				
	Advisors				
	Finance				

Figure 24 Roadmap to improve prosumer support in DK

## 8.4. UK

Figure 25 – Current Support Structures in UK

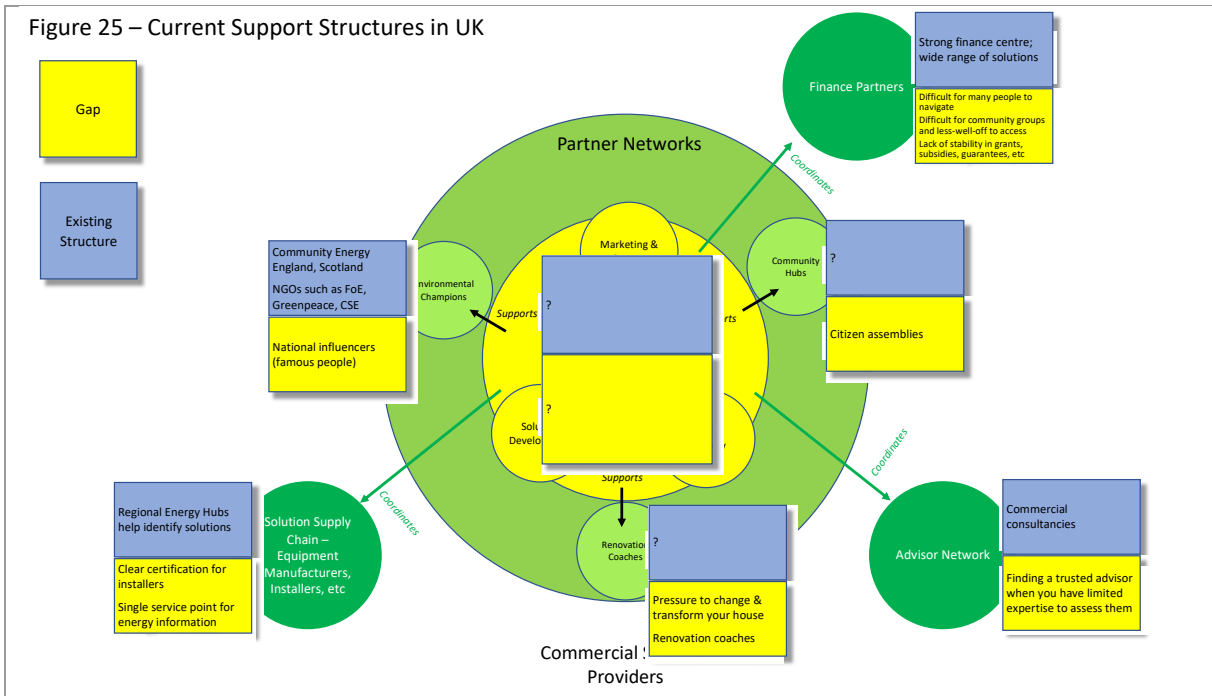


Figure 25 Current UK Support Structures

The EMPOWER2.0 partners identified the following strengths and gaps in coverage for the issues addressed by the proposed National Advisory Service amongst institutions in the UK:

- **Core Service:** There is some support for issues relevant to prosumerism, e.g. via the local energy team at the Department for Business, Energy and Industrial Strategy (BEIS), however the EMPOWER2.0 partners could not identify any organisation or unit providing a strong voice centred on the needs of prosumers.
- **Environmental Champions:** Organisations such as Community Energy England, Community Energy Scotland and Centre for Alternative Technology provide support for networks of community groups with a keen interest in prosumerism. Non-Government Organisations such as Centre for Sustainable Energy (CSE), Greenpeace and Friends of the Earth also champion their cause. However, there is a lack of famous people acting as national influencers on these topics.
- **Community Hubs:** Regional Energy Hubs, supported by BEIS, provide information and advice to local authorities and other local groups. However, this tends to be centred on technical and financial solutions rather than the many social aspects of working within a community to become a prosumer. The networks of the previous paragraph (e.g. Community Energy England & Scotland, CSE) help to fill this gap. Support for bodies such as Citizen assemblies is weak.
- **Renovation Caches:** No analogy to the renovation coaches seen in Belgium could be identified by the EMPOWER2.0 partners, although there is a growing network of co-operatives and similar addressing issues of renovation and retrofit, often supported by local authorities. Central support for this network is weaker.
- **Advisor Network:** There are many commercial consultancies, ranging from individuals to medium and large consultancies, active around issues relevant to prosumerism. However, it is difficult for potential prosumers with limited expertise to find a trustworthy advisor with the right expertise for their particular needs in this complex space.
- **Finance Partners:** UK has strong financial centres offering a wide range of financing options, including well developed solutions for more novel financing mechanisms such as crowdfunding. However, it is difficult for people to navigate all the options, and often difficult for the less well off and for community groups to access many of these solutions. Although there have been many government grants, guarantees and subsidy schemes over the years, these have often lacked stability, damaging people's confidence to commit and destabilising commercial supply chains.
- **Solution Supply Chain:** A wide variety of commercial options exist. The Regional Energy Hubs provide some support to navigate these options, but there is a lack of clear certification for installers, and no single point for people to go to for information. The Building Research Establishment (BRE) and university facilities such as the Energy House in Salford support development and accreditation of solutions.

This suggests that key areas to be addressed in setting up a National Advisory Service in the UK might include:

- **Integrating existing regional energy hubs into the core service:** There is a reasonably strong network of Regional Energy Hubs with central support from BEIS. This could be used as the

base from which to grow a National Advisory Service offering consistent and coherent support to prosumers across the country.

- **Building close networks around existing regional energy hubs:** The Regional Energy Hubs could also be used as the base for building the “close network” of champions, hubs and coaches. Stronger links to NGOs and to networks supported by DCMS (Department of Culture Media and Sport) and MHCLG (Ministry of Housing, Communities and Local Government) would help develop this network, as many of the issues applying to prosumers span across these existing governmental silos.
- **Networking to existing service providers and solution supply chains:** Again, the National Advisory Service could provide a focal point for connecting to the web of advisors, technology manufacturers, installers, etc, needed by prosumers, and for developing a coherent, accessible view of the solutions it can provide. This could build from the links already established by bodies such as BRE and University of Salford.

Figure 26 – Roadmap for UK

		Build Networks, Roadmaps and Solutions	Deploy at Scale	Refine & Sustain	
National Advisory Centre	Solution Development	Establish Centre & Define Initial Solutions  <b>Build from regional energy hubs and similar bodies – build a central support unit.</b>	Develop Solution Packages	Train coaches, hubs & advisors. Work with them & commercial partners to trial & deploy them. Gather feedback.	
	Marketing & Events		Develop initial stories & identify targets	Run initial campaigns	
	Policy/Advisory		Develop initial recommendations	Propagate recommendations through briefings, informal meetings, events, etc. Monitor markets, solutions, stakeholder concerns and so develop & refine recommendations.	
Partner Networks	Environment Champions	Establish partnership management team for internal networks. Define how it works with champions, hubs & coaches.  Recruit / procure initial champions, hubs & coaches.  <b>Build from regional energy hubs.</b>	Train network on initial solution set. Support partners to develop & trial their messaging & services and link to other parties	Support and grow the network	
	Community Hubs				Establish management team for external commercial networks. Define how it works with external parties, Terms & Conditions for Trustmarks, etc.  Build links to potential external partners.  <b>Build network with advisors, financial institutions, etc.</b>
	Resession Groups				
Commercial Solution Partners	Solutions Supply Chain	Recruit & accredit initial partners.	Support champions, hubs, coaches and external network partners to trial & deploy initial solutions. Gather feedback.	Support and grow the network. Work with it to develop, trial and accredit new solutions, financing options, etc.	
	Advisors				
	Finance				

Figure 26 Roadmap to improve prosumer support in UK



## 9. Appendix – Online Whiteboards

The value propositions, business models and National Advisory Service structures were developed by the EMPOWER2.0 partners through a series of online workshops throughout the project. The workshops were conducted using the Mural online whiteboarding service and all content from the online whiteboards is included in the attached PDF files. This content may help clarify and provide further detail on the material in this document.