



Powered by Senapt

# UNLOCKING THE POWER OF SMART ENERGY COMMUNITIES

Supporting the UK Government's  
Mission to Build a Clean Energy  
Superpower



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# Welcome

## Leading the Way to a Clean Energy Superpower

As the UK embarks on its mission to become a global leader in clean energy, the role of community energy projects cannot be understated. Housing Providers, supported by Tomato Energy, have the opportunity to lead this charge.

Through Smart Energy Communities, we can begin the process of delivering the government's clean energy goals, one community at a time.

Tomato Energy's approach, powered by the Senapt platform, offers a scalable and immediate solution to kick-start this energy revolution. By working together, we can unlock the potential of local energy generation and place Britain at the forefront of global climate leadership.

### **Kenny Virdee**

Head of Sales for Urban Communities  
Tomato Energy



# 01

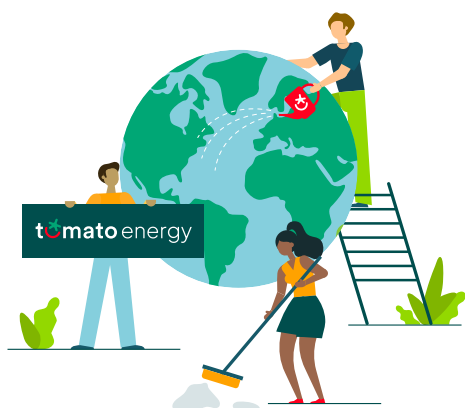
## The UK's Clean Energy Mission

With growing understanding of the climate crisis and the UK's renewable energy potential, the call for change has become stronger.

The UK Government has set an ambitious goal to transform Britain into a global clean energy superpower. This mission, part of the broader agenda to create a better and greener Britain, is designed to deliver tangible benefits, including lowering energy bills, creating green jobs, securing energy independence, and taking a global leadership role in climate action. As outlined by Prime Minister Keir Starmer, these initiatives will contribute to a fairer, greener, and more dynamic Britain\*.

To achieve this vision, a key strategy is the development of community-owned energy projects, with a specific focus on leveraging local resources like solar and wind energy. Tomato Energy, through its Smart Energy Communities initiative, is perfectly positioned to support this mission with the aim of enabling Housing Providers to pioneer community energy solutions that benefit both residents and the environment.

\* Taken from the Labour 2024 manifesto



# 01 The UK's Clean Energy Mission

## The Road to Becoming a Clean Energy Superpower

The idea of Britain becoming a leader in clean energy isn't new.

Back in 2008, then-Prime Minister Gordon Brown introduced a "green energy revolution," calling for dramatic changes to tap into the UK's potential, particularly in wind-generated energy. While progress has been made, the need for further, more rapid advancements is more pressing now than ever.

With growing understanding of the climate crisis and the UK's renewable energy potential, the call for change has become stronger. The government's recent announcement reaffirms its commitment to this shift, but significant work remains to turn that vision into reality.

## The Great British Energy Local Power Plan

At the heart of the UK Government's new clean energy strategy is Great British Energy's Local Power Plan, which is being hailed as the largest expansion of support for community-owned energy projects in history.

This initiative aims to **empower communities to take control of their energy generation**, ensuring the benefits of these projects stay within the community. In his 2024 Energy UK Conference keynote, Ed Miliband emphasised that while the UK has significant strengths in renewable energy, investments have been stifled by inertia. This new plan aims to break those barriers.

The UK Government plans to remove obstacles to renewable projects, particularly solar and storage, making it easier for communities to start energy projects. The goal is to deliver **11,000 local clean energy power projects** across the UK, from small-scale solar installations to medium-scale wind farms. These projects will provide cheaper, cleaner power to local communities, supported by new funding models such as crowdfunding and shared ownership structures involving both the public and private sectors\*.

\* Energy UK conference 2024: keynote speech by Ed Miliband - GOV.UK

# 01 The UK's Clean Energy Mission

## A Community-Focused Energy Future

The vision of local energy communities is central to the UK Government's strategy\*.

Under this model, communities come together to manage, generate, and benefit from their own energy projects. The government's plan aims to "rewire" Britain by creating smarter energy systems that reduce strain on the national grid. As our society transitions to new energy models, commitment to consumer protection is a key priority. Safeguarding consumer data and ensuring privacy is maintained at every step, while simultaneously providing flexibility and freedom to consumers, without tying them down to inflexible long-term contracts.

The challenge, however, lies in moving from vision to reality. While the government has outlined high-level objectives, much of the specific framework for implementing these projects remains undefined. There is a need for a clear plan that includes the regulatory updates, community engagement strategies, and investor partnerships required to kick-start these initiatives.



\* Energy UK conference 2024: keynote speech by Ed Miliband - GOV.UK

## 02

## The Challenges

For the UK to fully capitalise on its solar potential, the energy market needs to evolve.

### Underutilised Solar Potential

In the UK's domestic energy market, households are treated as isolated entities when it comes to energy generation and consumption. This means that when homes generate more energy than they need — usually through solar PV installations — they have limited options. Any excess energy can be stored locally or sold back to the grid under the Smart Export Guarantee (SEG), typically at a low, pre-set rate.

This setup severely limits the potential of solar energy in the UK. The size of solar installations is often capped by the needs of individual households, resulting in large amounts of unused energy capacity. The problem is even more pronounced in apartment blocks and community buildings, where it is difficult to distribute the energy generated from rooftop solar PV in a fair and equitable manner.

Estimates suggest that as much as 50 gigawatts of solar PV\* capacity in the UK remains untapped. This isn't because there's no demand for clean energy, but because the financial return on investment under the current market structure does not incentivise installing solar capacity beyond individual needs.

For the UK to fully capitalise on its solar potential, the energy market needs to evolve. Currently, households are treated as separate producers and consumers, which limits the scalability of solar investments. The market must shift towards a community-based model, where households pool their resources and maximise the benefits of collective energy generation.

\* SolarEnergy UK: 50GW of solar needed by 2030



## 02 The Challenges

### The Challenges of Delivery

While the government's commitment to clean energy is clear, turning this ambitious vision into a tangible, functioning system presents several challenges:

#### Challenge 1 - Community Engagement

Housing Providers will need to actively engage tenants and stakeholders to gain the buy-in necessary for energy community success.

#### Challenge 2 - Regulatory Adjustments

While Tomato Energy can operate within existing frameworks, broader regulatory changes will likely be needed to support the long-term sustainability and expansion of energy communities.

#### Challenge 3 - Consumer Protection

This will be considered as part of the overall offering, as part of the Energy as a Service (EaaS) proposition.

#### Challenge 4 - Investment Models

Public and private sector investors will need to collaborate to ensure the financial viability of large-scale projects.



# 03

## The Solution: Smart Energy Communities

These communities are able to lower energy costs, reduce carbon emissions, and improve the sustainability of UK housing.

### The Smart Future of Sustainable Energy Management

Powered by Senapt, Tomato Energy is working hard to transform energy generation, consumption and management within the UK social housing sector. This groundbreaking initiative introduces place-based energy communities, enabling social tenants, local homeowners and registered providers (RPs) to work together to form smart energy communities. By harnessing the collective power of solar photovoltaic (PV) installations, these communities aim to lower energy costs, reduce carbon emissions, and improve the sustainability of UK housing.

Tomato Energy is ready to step in with a part funded and specified proposition that allows Housing Providers to lead the way in creating community energy projects. Without the need for additional regulation, Tomato Energy can work within existing frameworks to build energy communities that serve as demonstration projects for the UK Government's broader goals.



# 03 The Solution: Smart Energy Communities

## Why Tomato Energy?

### 1. Immediate Action

Tomato Energy's initiative allows Housing Providers to act now, establishing smart energy communities that can begin generating clean, affordable energy without waiting for regulatory changes.

### 2. Senapt Software

Through the adoption of the Senapt "Energy as a Service" software, Tomato Energy is able to optimise energy generation and distribution within these communities, ensuring that the maximum value of energy produced is returned to the community members.

### 3. Scalable Framework

The approach serves as a blueprint for scaling up to meet the UK Government's target of 11,000+ local power projects. Tomato Energy's smart energy communities provide the clarity needed to answer many of the unresolved questions surrounding the clean energy mission. Tomato Energy aims to support in excess of 1,000 local power and community initiatives by 2030.

## 03 The Solution: Smart Energy Communities

### Place-Based Smart Energy Communities

Place-based energy communities allow registered providers to facilitate the formation of smart energy communities, where households can collaborate to maximise collective solar PV generation.

Instead of selling excess energy back to the grid at low rates, these communities can redistribute it among members, ensuring more efficient use and financial benefits for all participants.

A key feature of this model is the low-cost installation option, which removes the upfront financial burden to deploying solar PV systems. Communities can start benefiting from clean energy right away while recouping costs over time through energy tariffs and the shared value generated by their collective efforts.

Senapt's platform enables this evolution by connecting individual households to a shared energy proposition. The platform facilitates the seamless redistribution of excess energy within the community, ensuring that energy generated by one household can be used by another when needed.



## 03 The Solution: Smart Energy Communities

### How Senapt's Smart Energy Accountancy Works

At the heart of this proposition is the Senapt CRM smart energy accountancy platform.

This system allows households within a community to act as prosumers — both energy producers and consumers — rather than isolated entities.

Senapt tracks energy generation and consumption in real-time, ensuring that any excess energy generated by one household can be immediately utilised by others in the community.

#### Key features of Senapt's platform include:



##### Real-time energy tracking

This ensures that excess energy is redistributed efficiently within the community.



##### Energy credit system

Households earn energy credits for generating excess energy, which can then be used by other community members in need.



##### Peer to Peer Trading

A dynamic buyback and selling structure ensures that the value of excess energy is retained within the community, optimising financial returns.

This approach can be seen to revolutionise energy management, with the aim of making solar PV capacity more efficient and with the aim of lowering cost for community members.

# 04

## The Benefits

### Driving Efficiency Across Communities

Senapt's platform goes beyond energy sharing by promoting energy efficiency across the community.

By predicting periods of excess energy generation, Senapt can suggest optimal times for energy-intensive activities, such as charging electric vehicles or running energy intensive household appliances. This can not only reduce costs but also can enhance overall sustainability within the community.

The platform also encourages community engagement, empowering residents to take an active role in improving the community's green credentials. An engaged and proactive community can drive further energy efficiency and sustainability efforts, amplifying the overall benefits.

Registered providers can lead the charge in supporting the UK's mission to become a clean energy superpower.



## 04 The Benefits

### Retaining Value within the Community

While excess energy can still be sold back to the National Grid under the SEG, Senapt's real-time energy tracking allows for a more optimised pricing system.

This dynamic pricing ensures that the buyback price for excess energy is optimised, as it can be consumed by another community member at the same moment. This system keeps the value of energy generation within the community, making it more equitable and efficient than traditional sell-back energy models.

Senapt also addresses the long-standing challenge of distributing solar energy benefits fairly within apartment blocks. Traditionally, solar PV investments in apartment buildings have been limited due to the difficulty of ensuring all residents benefit equally. With Senapt's smart energy community model, it is now possible to fairly distribute the value of energy across all residents, making solar PV investments in apartment blocks — both new builds and retrofits — more viable.



## 04 The Benefits

### Extending the Community: Public and Community Buildings

The benefits of the Senapt smart energy community model are not limited to households.

Public and community buildings, which often have high solar PV potential but lower energy needs, can also join smart energy communities as energy generators. By contributing to the collective energy capacity, these buildings can not only meet their energy needs but can also generate additional income for the community. This can create a win-win scenario where public buildings contribute to both energy resilience and the financial stability of the community.



## 04 The Benefits

### Empowering Housing Providers

For Housing Providers, this is a moment of opportunity. By partnering with Tomato Energy, registered providers can lead the charge in supporting the UK's mission to become a clean energy superpower.

The Smart Energy Communities initiative offers a way for Housing Providers to implement demonstrator projects that can not only reduce energy costs for tenants but can also contribute to the broader goals of national energy security and decarbonisation.

#### These projects provide real, measurable benefits:



##### Lower Energy Bills

Social housing tenants [and homeowner community participants] can experience immediate reductions in their energy costs through the collective generation and consumption of clean energy.



##### Community Ownership

Energy projects remain community-driven, ensuring that the financial and environmental benefits are retained locally.



##### Environmental Impact

By increasing the use of renewable energy, these projects directly contribute to reducing the carbon footprint of housing estates.



## 04 The Benefits

### A Revolutionary Solution for All

Senapt's smart energy accountancy platform represents a revolutionary shift in the UK energy market.

By enabling communities to maximise their collective solar PV generation potential, Senapt ensures that the value of excess energy is retained within the community. This innovative approach can empower social housing tenants, homeowners and registered providers to form smart energy communities that can drive down energy costs, improve sustainability, and can make clean energy investments more viable.

The potential to expand these communities to include public buildings and apartment blocks further enhances the scalability and impact of the Senapt platform. Together, Senapt and Tomato Energy are creating a sustainable future where energy communities are at the heart of the UK's clean energy transformation.





# YOUR SUSTAINABILITY PARTNER.

For more information on how to get involved  
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