

THE DOLMENS

Climate Action Network

Energy Master Plan Summary Report



THE DOLMENS

Climate Action Network

Dolmens Climate Action Network

The Dolmens Climate Action Network is a community-led initiative in South-East County Down, Northern Ireland, dedicated to addressing climate change through local, sustainable actions.

Starting in Castlewellan, it now serves as an umbrella network across multiple villages and rural areas, with approximately 700 members. The group organises regular events, weekly activities, a Repair Cafe, energy efficiency kit lending, and projects spanning energy, food, biodiversity, and the circular economy.

As part of the wider Sustainable Energy Communities NI (SEC NI) programme led by Advice NI and funded by The National Lottery Community Fund, Dolmens operates as one of four pilot communities. The SEC NI project empowers local groups across Northern Ireland to tackle rising energy costs, fuel poverty, and the climate emergency by developing sustainable, low-carbon energy solutions and creating tailored Energy Master Plans (EMPs).

This initiative highlights grassroots empowerment in Northern Ireland's transition to sustainable energy.

Overview

The Energy Master Plan sets out a community-led plan to reduce carbon emissions and improve energy use across the Mourne and Slieve Croob area in South-East County Down. The plan was developed for the Dolmens Climate Action Network by Action Renewables, and it looks at how energy is used in homes, businesses and transport across the region.

The study shows that the area is largely rural, with many homes spread across villages and countryside. Most houses rely on oil for heating, many were built before modern insulation standards, and access to the natural gas network is limited. Because of this, homes in the area often use more energy and produce more emissions than the Northern Ireland average.

Homes are the biggest source of energy use and carbon emissions in the area. Many houses rely on fossil fuels and have lower energy efficiency than newer buildings. Businesses and community buildings also use significant amounts of energy but offer good opportunities for improvements, especially through rooftop solar panels. The transport system is also heavily dependent on private cars, with relatively few electric vehicles currently in use.

The study also explored the possibility of building a large renewable energy project in the area. While there is good potential for renewable energy generation, limits on the local electricity network mean that large projects cannot currently export electricity to the grid. Because of this, the plan recommends a more practical approach that focuses on smaller solar installations across multiple buildings, improvements to home energy efficiency, cleaner heating systems and better support for electric vehicles.

The Energy Master Plan supports national and regional climate goals while focusing on community ownership and local benefits. The aim is to reduce emissions, lower energy costs, strengthen energy security and create new opportunities for the local green economy.

If the recommendations in the plan are carried out, the area could see lower household energy bills, reduced carbon emissions and new opportunities for community-led energy projects. It would also help position the Dolmens Climate Action Network as a leading example of how rural communities can act on climate change.

“The aim is to reduce emissions, lower energy costs, strengthen energy security...”

Evidence Base Used in the Energy Master Plan

The report is grounded in a multi-source evidence base, combining quantitative datasets, technical audits, modelling, and community engagement.

The Energy Master Plan is built on:

- ✓ National statistical datasets
- ✓ 4,906 EPC technical records
- ✓ 50 domestic EPCs + 10 home audits
- ✓ 5 commercial building audits
- ✓ Grid and renewable modelling
- ✓ Community and stakeholder consultation
- ✓ Policy and planning framework review



Homes and Household Energy

Homes make up the largest share of energy use and carbon emissions in the area. There are around 10,130 homes in the study area, and most of them rely on fossil fuels such as oil or gas for heating. Oil heating is particularly common because many rural areas do not have access to the gas network.

On average, each household uses around 27,930 kilowatt hours of energy every year. This produces roughly 6.5 tonnes of carbon emissions per home. Across the whole study area, homes use around 282.7 gigawatt hours of energy every year and produce about 65,750 tonnes of carbon emissions. Household energy costs are estimated to be more than £27 million per year, at the time of this report 2025-2026.

Several factors explain this high energy use. Many homes in the area are large detached houses, which require more heating. Nearly half of the housing stock was built before 1985, when insulation standards were much lower. As a result, many homes lose heat more easily and require more energy to stay warm. At the same time, relatively few homes currently use renewable energy systems such as solar panels.

To address these issues, the plan recommends starting with improvements to the fabric of homes. This means improving insulation, reducing drafts and installing better heating controls so that homes require less energy to heat in the first place. Properties with the lowest energy efficiency ratings should be prioritised.

Once homes are better insulated, heating systems can begin to transition away from oil. In many cases, heat pumps could provide a low-carbon alternative. In situations where this is not immediately possible, hybrid systems or gas connections may act as a temporary step during the transition.

“Many homes in the area have suitable roof space for solar installations”

Another opportunity is rooftop solar panels. Many homes in the area have suitable roof space for solar installations. When combined with battery storage, solar panels allow households to use more of the electricity they generate themselves. Community bulk-buy schemes could help reduce installation costs and make solar energy more accessible.

The Energy Master Plan also highlights the importance of financial support and community advice. Funding programmes, local retrofit guidance and targeted support for households experiencing fuel poverty will be important in helping people make improvements to their homes. Community workshops and simple energy monitoring tools could also help residents understand and reduce their energy use.



Businesses and Community Buildings

Businesses, schools, community centres and other non-residential buildings also use significant amounts of energy across the area. Together, they consume around 68 gigawatt hours of energy each year and produce about 13,559 tonnes of carbon emissions. Energy costs for these buildings are estimated to total around £16 million annually, at the time of this report 2025-2026.

Most of the energy used in these buildings is electricity, which powers lighting, equipment, refrigeration and heating systems. However, many buildings still rely on oil or liquified petroleum gas (LPG/Bottled Gas) for heating because of the limited gas network.

The plan identifies a number of ways to reduce energy use in these buildings. Improving insulation, replacing windows and reducing drafts can lower heating demand and make buildings more comfortable. Upgrading heating systems and installing solar panels can also help reduce both energy costs and emissions.

Large buildings such as schools, health facilities and community centres are especially good candidates for improvements because they tend to have high energy use and large roof areas suitable for solar panels. Targeting these buildings first could deliver quick carbon savings and visible benefits for the community.

Transport and Travel

Transport is another major source of emissions in the area. Because the region is rural, many people rely on private cars for work, shopping and accessing services. Public transport options are limited, and long travel distances are common.

Electric vehicles are becoming more popular across Northern Ireland, but uptake in rural areas remains relatively low. One reason for this is the limited number of public charging points, which can make people worried about running out of charge on longer journeys.

The Energy Master Plan suggests that expanding home charging will be key to increasing electric vehicle adoption in the area. Many households could charge vehicles overnight at home, especially if they also install solar panels. This would allow people to power their cars with locally generated renewable electricity.

Community charging hubs could also help improve access to charging infrastructure. Installing chargers at community buildings, schools or council facilities would make charging easier for residents and visitors. Over time, these locations could also support the transition of public and community vehicle fleets to electric vehicles.

The Energy Master Plan also highlights opportunities to encourage walking and cycling for shorter trips. While this may not replace car travel entirely in rural areas, improving local routes could support healthier lifestyles and reduce some shorter journeys by car.

“Expanding home charging will be key to increasing electric vehicle adoption in the area”





Renewable Energy Opportunities

As part of the study, Action Renewables explored the possibility of developing a large community renewable energy project in the area. Several potential sites were identified through community discussions, stakeholder engagement and mapping of renewable energy resources.

Solar energy modelling showed that it could be technically possible to develop a solar farm capable of generating significant amounts of electricity. However, further investigation revealed that the local electricity network currently has no capacity to accept large amounts of exported electricity.

“Large-scale renewable projects cannot currently connect to the grid in the Castlewellan area”

Because of this limitation, large-scale renewable projects cannot currently connect to the grid in the Castlewellan area. This is expected to remain the case for at least the next decade unless the electricity network is upgraded.

A New Approach: Community Solar Across Multiple Buildings

Due to these grid limitations, the Energy Master Plan recommends focusing on **smaller solar projects** spread across many buildings instead of one large solar farm.

Under this approach, solar panels would be installed on council buildings, schools, community centres and other suitable sites. The electricity generated would mainly be used within the building itself, helping to reduce electricity bills.

Any extra electricity could still be exported to the grid in small amounts where possible. Together, these smaller installations would form a wider community solar network.

In this model, the Dolmens Community Group would manage and own the solar systems. Buildings that host the panels would benefit from cheaper electricity through agreements. The community group would also receive income from the electricity generated, which could be reinvested into future energy projects and local initiatives.

This approach works within current electricity network limits and allows renewable energy projects to move forward without waiting for expensive grid upgrades.



Turning the Plan into a Real Project

The next step is to turn the ideas in the Energy Master Plan into a real project. This next phase will focus on developing a clear plan for how the distributed solar programme can be delivered.

This will include deciding how the project will be owned and managed, identifying funding options, preparing legal agreements with host buildings and developing a strategy for community participation.

The aim is to create a practical roadmap that allows the project to move from planning to delivery. More broadly, the goal is to help communities take greater control of their energy future while reducing costs and emissions.



Community Participation

Residents, businesses and community organisations are invited to register their interest in taking part in the proposed community solar project.

By joining the project, participants could help **reduce carbon emissions, support local climate action, and contribute to a community-led energy future**. The project will include solar panels installed across multiple buildings, with opportunities for community members to get involved in different ways, from becoming an off taker, an investor or both.

We are currently seeking **expressions of interest** from anyone who would like to learn more or potentially take part.

Registering your interest will help us understand the level of community interest and shape the project.

Sign up to stay informed and be part of building a cleaner, community-powered energy future.

Anyone interested in learning more or taking part can contact:



Action Renewables
arconsultancy@actionrenewables.co.uk

or



Dolmens Climate Action Network
climateaction@dolmensnetwork.com

We look forward to hearing from you!



THE DOLMENS

Climate Action Network

