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Case Study:

How Partnership and Blended Finance Drove a Local Climate Solution

Tackling Climate and Fuel Poverty in Barnsley

In Barnsley, South Yorkshire, as in many parts of the UK, communities face a dual challenge: reducing carbon emissions in line with net-zero targets, while addressing rising energy costs that were pushing more residents into fuel poverty. Energise Barnsley, Barnsley Metropolitan Borough Council and Berneslai Homes recognised that meeting this challenge would require a community-led solution designed to deliver long-term local benefit.

Elderly tenants and low-income households were disproportionately affected, often unable to keep up with rising utility bills. A clean-energy transition was clearly needed, but it had to be inclusive, rooted in place and built for long-term local impact. CO2Sense is committed to ensuring the just transition delivers real, measurable benefits for communities. In Barnsley, that meant helping to shape and unlock a blended-finance model that brought public, private and citizen investment together, with lasting local impact.

We were proud to partner with positive investing platform Ethex, Energise Barnsley and Barnsley Council to make this possible, creating a model that not only cuts emissions but empowers residents, reduces bills and strengthens local resilience. This included incorporating the opportunity for the local community and UK individuals nationwide to participate by giving them the opportunity to directly invest in the project and target a fair return.



A Community Energy Project with Shared Ownership

The ambition behind Energise Barnsley, a community energy benefit society, was to bring solar power to council-owned homes and public buildings. The aim was to help residents save on energy bills, reduce carbon emissions and deliver lasting value for the local community.

Delivering this vision required more than infrastructure. It needed a financial model that could align public leadership with private investment and community ownership.

"This project proves what's possible when communities are empowered to lead. It allowed us to deliver at scale, reach those most affected by fuel poverty and ensure the value stays in Barnsley. It's local energy, owned by local people, for local benefit."

Andy Heald, Director, Energise Barnsley



Image from Energise Barnsley

Blended Finance to Unlock Local Impact

To deliver the project at scale, CO2Sense provided catalytic match funding that de-risked early stages and unlocked wider pools of capital. By bridging public sector constraints and investor expectations, this made the project both investable and scalable.

CO2Sense's partnership with Ethex, the UK's leading positive investment platform, opened the project to citizen investors through the Energise Barnsley Solar Bond. This platform enabled everyday people across the UK to invest directly in the clean energy transition, connecting financial returns with social and environmental impact.

Hugh Goulbourne, Director, CO2Sense, explains:

"Blended finance is essential to ensuring that local communities are not left behind in the transition to net zero. This project shows how catalytic capital can unlock both private and community investment, while delivering real social and environmental value. CO2Sense is focused on building financial models that channel resources into local economies, support energy resilience and give people greater control over their future."

Lisa Ashford, CEO, Ethex said:

"Energise Barnsley demonstrated how blended finance could unlock community energy at scale. Through Ethex, we gave everyday investors the opportunity to co-invest alongside institutions such as CO2Sense and Barnsley Council to deliver a project with real climate and social impact. It's a triage model that puts power—both financial and literal—into the hands of communities."

Energise Barnsley initiated and project delivered on the ground. From 321 solar homes in 2016 with CO2Sense's first investment to 1,000 more today, this growing project continues to cut emissions and costs for Barnsley residents. Energise Barnsley also delivered innovation projects, including the rollout of smart battery systems. As a community-led mutual society, their governance model ensures that surplus income is reinvested locally via a dedicated Community Energy Fund and through their Rules there is an asset lock.

Barnsley Council's involvement provided crucial credibility and ensured the project aligned with wider sustainability and social equity goals - meeting the needs of Barnsley's most vulnerable residents.

Paul Castle, Service Director, Environment & Transport, Growth & Sustainability, Barnsley Council, said:

"Barnsley Metropolitan Borough Council is proud to help demonstrate how local authorities can enable community ownership in clean energy, through our partnership with Energise Barnsley. Combining our leadership with matched funding support from CO2Sense - connecting it to people in South Yorkshire and across the UK with investment through the positive impact platform Ethex -

the Energise Barnsley Solar Bond raises show what's possible when public backing helps unlock community-led climate action.

It's a practical example of our commitment to a just transition and to achieving net zero through inclusive, place-based solutions."

Together, the partners delivered a project that not only deployed clean energy infrastructure, but also redefined how finance, community and policy can align to deliver social, environmental and economic returns, both locally and at scale.

Tangible Benefits for Residents and the Region

Over 11,500 MWh of clean energy generated so far, saving 2,424 tonnes of CO2. The new 1,000 solar homes project will save 24,196 tonnes of CO2 over the project lifetime.

Created over £278,844 of collective savings for tenants on their electricity bills.

Installed 150 smart batteries, generating an additional £300,000 in energy bill savings.

Generated over £79,000 surplus income to fund community initiatives.

Beyond the numbers, the project has had a tangible impact on everyday lives. One resident described how she noticed a drop in her energy costs within weeks, as shown on her smart meter. Even during winter, when cooking Christmas dinner for her whole family, she saw a clear saving. The extra money made a real difference to her household budget.

At a local community centre, solar energy now powers communal washing and drying machines and helps to keep building energy costs low. These day-to-day benefits show how clean energy infrastructure can directly support local wellbeing and resilience.

Why This Matters: A Blueprint for Councils Across the UK

The Energise Barnsley model shows how local authorities can catalyse investment, empower communities and deliver inclusive climate action. By combining public leadership with private capital and citizen investment, the project offers a replicable model for net-zero delivery that prioritises place-based impact.

Councils looking to mobilise resources around decarbonisation, fuel poverty and community wellbeing can look to this as a proven example of what's possible when the right partnerships and finance structures are in place.