



APSE Energy Consultancy Case Studies

Energising Local Government



APSE Energy Consultancy

One element of APSE Energy's offering is consultancy support across a range of specialities related to the local authority energy agenda. This document provides case study examples of a range of consultancy projects that APSE Energy consultants have worked on for local authorities.

APSE Energy consultants are recognised energy industry experts with substantial experience in dealing with energy projects within the local authority environment. They understand the processes within local government and the importance of building support for a project. They have experience in different technologies, products and services and are skilled at supporting local authorities to look at their assets through an 'energy' perspective.

The following are some of the consultants' areas of expertise:

- Strategic understanding of a local authority's role in the energy agenda within their locality.
- Developing climate emergency strategies & action plans.
- The planning process for energy projects.
- Asset mapping.
- Heat networks.
- Business case development.
- Energy audits.
- Solar PV projects.
- Technological advances, including battery & storage options.
- Financial modelling & accessing funding.
- Biomass projects.
- Grid access & capacity.
- Electric vehicles & charging infrastructure.
- Procurement.

APSE Energy can provide support such as:

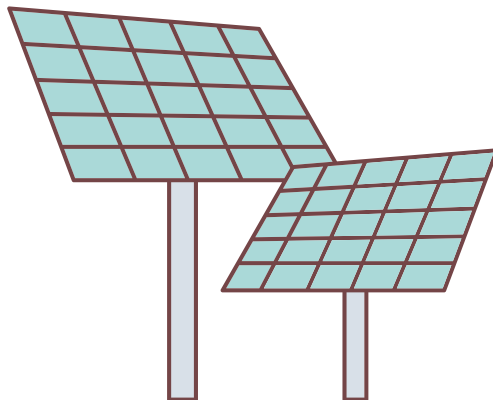
- Helping to write or update your energy/climate/sustainability strategy by, holding priority setting workshops with your managers and councillors; analysing your assets and how you might include them in your strategy; drawing up an action plan to take projects

forward; or writing the strategy for you if required.

- Completing financial planning models for specific investment projects such as solar farms.
- Providing advice on grid connections, submitting grid applications and negotiating with DNOs.
- Negotiating with potential customers for any energy you may be generating or plan to generate.
- Advising on electric vehicle purchase and operational issues around charging.
- Acting as a critical friend on existing or planned heat network or biomass schemes, advising on designs, performance levels and applicability of this technology in particular circumstances.
- Supporting your work around specific technologies such as solar, wind, heat pumps and batteries.
- Providing advice on how the council might trade in energy.
- Embedding sustainability and climate change into local development plan policies.
- Plus a variety of other bespoke consultancy services.

Consultancy support varies in length, ranging from 1.5 days to continued ongoing support. The average length is about 14 days but it is tailored to each specific job to suit each local authority circumstance and we review it as we go along.

Interim managers can also be provided through APSE Solutions, in order to help boost your capacity for the day to day operation of your energy service, sustainability section or climate emergency programme.



Procuring Consultancy Support

Procuring consultancy support can be laborious, lengthy and expensive. It can tie up resources and delay the progress of projects without guaranteeing the quality of those responding to the procurement exercise. This can be avoided by appointing APSE Energy.

APSE is an unincorporated association of its member authorities and has no separate legal existence. Given that it is not possible to create a contract between two organisations that are not legally separate entities, an award of work to APSE is not technically a contract and does not therefore fall under contracting rules and regulations.

The great majority of our proposals are for de minimis work, which would not be subject to the procedural requirements in any event. We have discussed whether internal procurement rules within a council allow work to be awarded without a process of competition with a number of authorities over the years and many have concluded that their internal rules allow APSE to be engaged without competition on the basis of their membership of APSE and the fact that the award does not technically amount to a contract. We consider this a robust position.

APSE Energy is owned by you. We are not for profit, which means any surplus is ploughed into growing services for you the members. We work solely to support the local government sector. Our aims and objectives for a greener economy and greener energy are shared by our member councils. APSE provides consultancy to APSE member authorities throughout the UK and the vast majority of this work is below threshold and awarded directly, without competition.

We do fully recognise that it is for the authority to decide for itself whether the procurement rules apply and how its internal rules should be complied with. We are confident however that should any council wish to engage APSE Energy directly, there are no strict legal or procedural impediments to doing so. We suggest you take legal advice if you are in any doubt.

We work to a jointly agreed proposal which describes the nature of the project, identifies the individual elements to be delivered, the duration and cost, as well as the details and experience of all those undertaking the work.

APSE is a not-for-profit organisation which exists solely for the benefit of the local government sector. All fees generated through consultancy, or our other services, remain within the sector and are used for the benefit of our members.

If you wish to know more about APSE Energy or our consultants, please contact Phil Brennan, Head of APSE Energy on 0161 772 1810 or at pbrennan@apse.org.uk, or Charlotte Banks, Energy Research & Project Officer at cbanks@apse.org.uk.



Solar

Warrington Borough Council's two solar farms are considered amongst the UK's largest and most technically advanced solar plus battery storage projects.

The first solar farm - a 34.7MW solar farm near York was completed in December 2019. It is pioneering a new commercial model using 30 MWh of battery storage and sophisticated technologies to maximise revenues and help balance the grid. The project generates enough energy to supply a town (10,000 homes) and demonstrates how local authorities can partner with developers to deliver projects that cut carbon, supply clean electricity and generate millions of pounds for councils to fund essential services. The Council has also purchased a 25.7MWp solar farm in Hull which will generate enough electricity to power 8,000 homes.

APSE Energy's consultants assisted the Council in the following ways:-

- Support with due diligence and data room scrutiny (including a review of the financial modelling);
- Facilitated the incorporation of sleeving into the scheme working with the DNO;
- Provided expert support to work alongside the Council in its negotiations with Gridserve when considering operation and maintenance contracts, management services provision, BESS (Battery Energy Storage System) optimisation services, Power Purchase Agreement (PPA) and other essential matters;
- Acted as a representative to sit alongside officers in talks with Statkraft about the PPA, battery optimisation, sleeving and Geldards solicitors covering detailed legal issues;
- Made REGO and Capacity Market applications on behalf of Warrington;
- Represented the Council at solar farm acceptance tests which ensure the equipment works correctly and power is generated;
- Acted as project manager visiting the site, ensuring the schedule was kept to, that the correct equipment with appropriate warranties was being used and act as client representative at the site.

Overall APSE Energy was able to guide Warrington through a highly technical exercise, helping them avoid unnecessary costs and delays, as well as proving to the other organisations involved that the Council had expertise on its side.



Key Points

- Project - 2 solar farms
- Council - **Warrington Borough Council**
- Energy generation - 35MW & 26MW
- Carbon savings - 15,000 tonnes & 10,000 tonnes

“The work APSE Energy has done has been of the highest quality and the support remains ongoing. We have benefited immensely and have learnt a huge amount which will help us with future investments of this kind including a better understanding of the broader policy framework for such deals.”

*Andy Doyle
Finance Manager
Warrington Borough Council*



Energy Audit

Energy efficiency and energy management should be high on the list of priorities for those councils who are serious about managing energy, energy efficiency and reducing emissions. Monitoring the performance levels of buildings and energy equipment is a vital element in looking after the council's estate. We can help with audits ranging from an in-depth technical investigation of a leisure centre for example, through to support for energy bill validations.

Blackburn with Darwen Council were scheduled to retrofit an existing boiler at Darwen Leisure Centre and required some advice about options prior to making the decision.

APSE Energy, in discussion with the Council, decided on an approach and assessed the data provided to check the performance of the CHP; establishing the level of energy/carbon/financial savings to be achieved over the lifetime of the CHP unit. This work included load modelling, analysis of system inputs and outputs (mains gas input and heat and power output), as well as the maintenance regime.

The next stage involved the following:

- A site investigation to survey the CHP;
- Heating and automatic controls installations to assess the systems in term of promoting efficient and effective operation of the CHP;
- Overview of the installed system and integration with the controls, connections, time zones and system sizing;
- A review of system performance;
- Comparison of the energy/carbon/ financials between using the CHP and stopping its use;
- Options for energy saving measures;
- A detailed report with recommendations highlighting how the performance of the unit could be improved.

This review enabled the client to make an informed decision about whether to spend on an upgrade to the existing system or invest in a new heating system.



Key Points

- Project - Energy audit of a specific asset in this case CHP
- Council - **Blackburn with Darwen Council**

“Although we have engineers working in the Council, we needed some specific support to look at a boiler system at a leisure centre. We weren’t 100% sure whether to invest in a new system. APSE Energy brought expert engineering knowledge and an understanding of the practical considerations of energy use in a leisure centre. It turned out to be invaluable help.”

*Gwen Kinloch
Environment & Sustainability Manager
Blackburn with Darwen Council*



Carbon Footprinting - Council Operations

Over 270 local authorities have made a climate emergency declaration and most are accompanied by a target date for carbon neutrality. Whether there is a date or not, the current consciousness around this agenda means that it is vital for any organisation to be able to track its own performance in terms of carbon emissions. That means identifying the current carbon footprint and being able to monitor it simply on a regular basis.

Many local authorities have lost the capacity and understanding over recent years to accomplish this task. There is a need to understand the organisation's services and those elements that contribute to emission levels, to recognise the data required, to apply appropriate factors and analyse the outputs. It is also necessary to put into place a relevant process to maintain access to the data, update it and populate the relevant model. This is a fundamental part of ensuring a successful approach to climate action.

APSE Energy worked with Bracknell Forest Council to produce a carbon footprint taking the following approach:-

- Interviews with relevant officers to gauge an understanding of data quality and availability, work done to date and aspirations;
- Analysis of data provided by the Council, containing Scope 1 & 2 usage data and basic asset information e.g. building kWh data and vehicle data for a full year;
- Population of a model to calculate baseline carbon emissions;
- Outputs used to provide a brief guideline strategy for improving efficiencies and generating power to reduce emissions and cost.

A carbon footprint report was produced noting the authority's emission levels, alongside a high level review of potential reduction measures.

Our methodology follows the principles of the Greenhouse Gas (GHG) Protocol and carbon conversion factors are taken from the BEIS GHG Conversion Reporting publication. This allows a consistent approach to comparing emissions and using recognised techniques for future reporting.

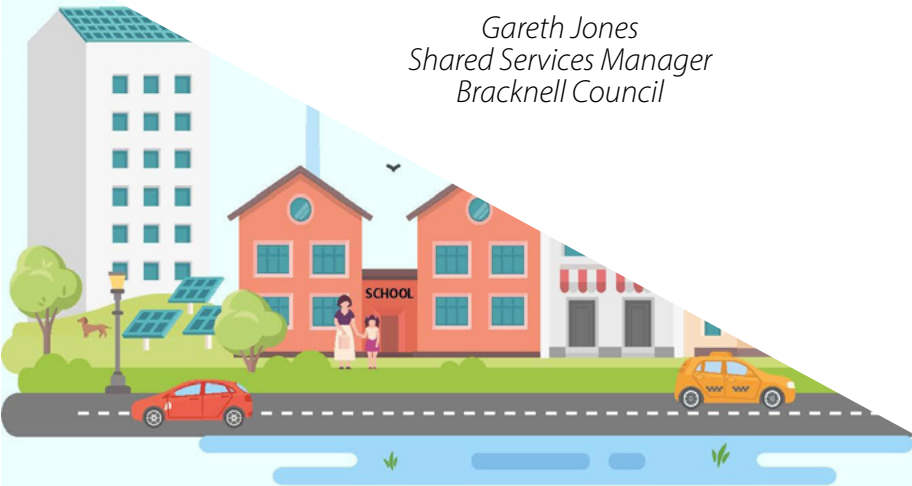


Key Points

- Project - Baseline carbon footprint
- Council - **Bracknell Forest Council**

“Our time and capacity pressures, as well as the minimal cost of the work, were prompts which led us to get support from APSE Energy and we have been very happy with the work. I'd recommend that others in our position followed exactly the same route we did. We are much better informed as a result of this work.”

*Gareth Jones
Shared Services Manager
Bracknell Council*



Carbon Reduction Trajectory to the Net Zero Target Year

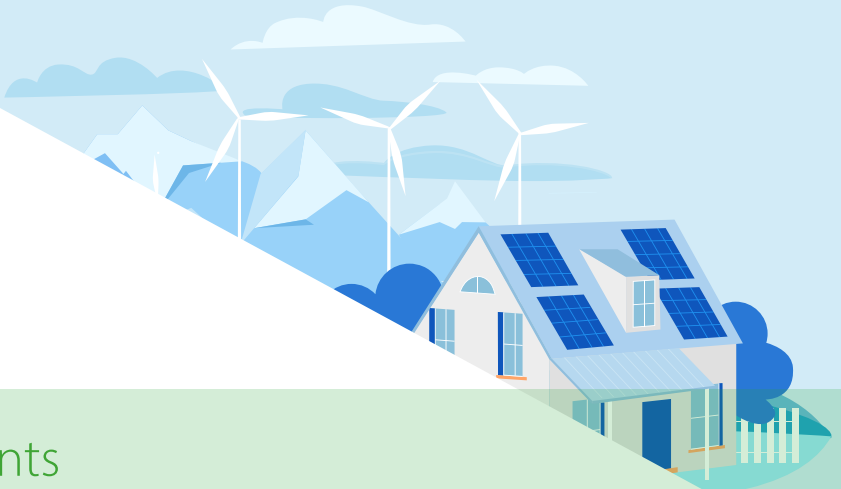
Many councils have set carbon reduction targets or specified a date by which they intend to become net zero carbon as part of a climate emergency declaration. The next logical stage is to identify those actions that a council can take to reduce its carbon emissions by focusing on individual assets.

APSE Energy has worked with a number of councils, including Tendring District Council, to address this issue. This involved using data from a carbon footprinting project to create a trajectory. The trajectory shows interventions that could be incorporated to reduce energy usage, generate small/large-scale power, the transition to electric vehicles and identify the unavoidable emissions that may require offsetting. It was a desktop investigation based on industry and engineering experience, and rule of thumb.

The trajectory can be used as the business case to identify:

1. The interventions that can be incorporated;
2. The forecast capital cost;
3. The forecast year on year cost and carbon savings up to the net zero carbon target year.

For Tendring, a spreadsheet was created listing all assets and prioritising where the greatest opportunities lie in each section, e.g. the worst performing buildings were ranked based on where the greatest savings could be achieved. The process covered all of the Council's assets for which data was received. A commentary was provided on the methodology for calculating the trajectory.



Key Points

- Project - Carbon trajectory
- Council - **Tendring District Council**

“The Council has set an ambitious target for carbon neutrality and it was vital that we knew the scale of our ambitions and how to reach our target. APSE Energy provided a clear, precise and evidenced model to inform our decisions going forward.”

Tim Clarke
Assistant Director for Housing and Environment
Tendring District Council



Solar Farm Feasibility Study

Solar energy is probably the easiest large-scale renewable technology to get operational. There are potentially a range of factors which can cause a significant delay but in the main there are a set number of stages to be achieved before a council will know whether a project is worth allocating resources to.

APSE Energy has worked with many local authorities on the feasibility stage of solar investments. Stockton-on-Tees Borough Council is one such council that we have worked with.

There are 4 main stages of a feasibility study. The first is a site visit to consider issues such as orientation, shading, access and ground conditions. In Stockton's case they had identified a single site; in other councils that we have worked with, a number of sites are visited to find the optimal site.

Next is finding a customer for the electricity produced. There are a small number of alternatives including direct feed to the grid, private wire, onsite use, sleeving or storage – or a combination.

A project must stack up financially so we produced a model for the Council to cover all costs and income from the project and to highlight the rate of return.

Finally, a report was written to bring all of those issues together. We also highlighted other issues, such as connections to the grid, planning matters, battery technology and communications. The report, complete with recommendations and written by industry experts, can be given to decision makers to decide upon the next stage.

Having a staged approach, including meetings with officers and councillors, helped to clarify the nature of the project and the benefits, as well as sell the project across the local authority.

This approach is our standard proposal and it met the needs of Stockton-on-Tees Borough Council perfectly.



Key Points

- Project - Feasibility for a solar farm
- Council - **Stockton-on-Tees Borough Council**

“Investing in a solar farm isn’t something we consider every day at Stockton-on-Tees so although we were keen to take on the challenge, we knew we would have to work alongside some experts. APSE Energy consultants are ideal – they stimulated interest amongst councillors and officers, have the technical knowledge that we don’t have and understand the local authority landscape. We couldn’t have wished for more.”

*Paul Taylor
Principal Environment Officer
Stockton-on-Tees Borough Council*



Climate Emergency Strategy

Producing a climate change strategy can be a long project due to the variety and scope of existing and potential projects and partners, options of new technologies and relevance to all areas of the local authority. Current corporate policies such as those related to energy, sustainability, asset management and carbon management, as well as service based policies, must be built into a climate change strategy. Therefore writing one is an important job.

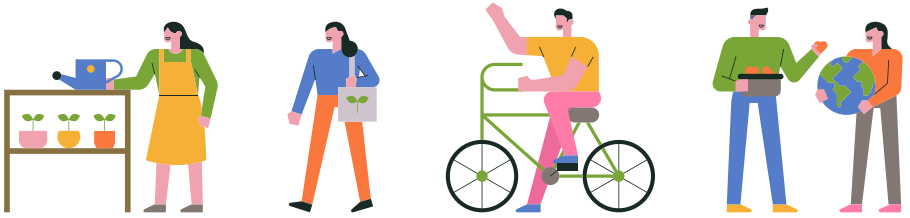
A number of councils have turned to APSE Energy for help because of the following:-

- We are informed about activity across the sector.
- We can bring knowledge of approaches common within councils.
- We can introduce a robustness to strategies and plans through challenge.
- We can add capacity where it may be lacking.

We have been able to meet with key officers and councillors to ensure buy-in to the strategy and action plan, identify trends, outline existing and potential projects, manage the process and act as a critical friend throughout. We have provided advice on communications, risk, target setting, working with partners and engagement with the public and local businesses.

Although we can write a strategy and action plan for a local authority if that is required, we are happy to work alongside officers and act as a supporter, knowledge bank and advisor throughout the process. That way we are able to help build capacity within the organisation and ensure the strategy is 'owned' internally.

The projects noted in this document are all linked to the climate emergency agendas within the local authorities in question and were contributory elements within their action plans.



Further Consultancy Support

Further examples of consultancy work that APSE Energy consultants can undertake for local authorities include the following:

- Heat networks
- Wind turbines
- Biomass projects
- White label agreements
- Fuel poverty alleviation projects
- Sustainability strategies
- Engagement strategies
- Energy management support
- Energy bill validations
- Embedding sustainability and climate change into local development plan policies
- Strategic site master planning

If you wish to know more about APSE Energy, the topics noted in this document or our consultants, please contact Phil Brennan, Head of APSE Energy on 0161 772 1810 / 07920 801014 or at pbrennan@apse.org.uk, or Charlotte Banks, Energy Research & Project Officer on 0161 772 1810 or at cbanks@apse.org.uk.



NEW MUNICIPALISM

Delivering for local people and local economies

Association for Public Service Excellence

3rd Floor, Trafford House
Chester Road, Old Trafford
Manchester M32 0RS

Telephone: 0161 772 1810
Email: enquiries@apse.org.uk
www.apse.org.uk