



Energy Solutions

Brochure



Colloide

Contents

Why Partner with Us	Page 3
District Heating & Cooling	Page 4
Energy Centre Systems	Page 6
Heat Pumps	Page 8
Anaerobic Digestion	Page 10
Biomass Heating	Page 12
Control Systems	Page 14
Our Experience	Page 16
Project Case Studies	Page 17
Our Capabilities	Page 19
Our Product Range	Page 20

Energy Solutions Designed by experts



Why choose to Partner with Us

Colloide has a strong base of experience in providing renewable energy solutions to the agricultural, industrial and municipal sectors. This experience allows us to assist a range of organisations in becoming more sustainable by lowering their carbon footprint using our technologies.

Commercial, financial and regulatory pressures mean that energy is now widely recognised as a valuable and depleting resource. Within this sector, we need to be at the cutting edge of technology and anticipate the pressures of the future as well as today.

We work with our clients to design and install sustainable systems that optimise energy efficiencies and resource recovery, and make commercial sense.

Markets

We're operating in.



Utility Suppliers



Local Authorities



Healthcare



Agricultural



Food & Beverage



Facilities & Property
Management

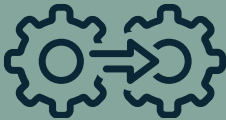
Discover the full District Heating & Cooling Process





Our systems not only save energy and cut costs but also contribute to environmental preservation, making them the intelligent choice for businesses and communities committed to a greener tomorrow.

From central Energy Centres to local substations, our systems create a seamless flow of sustainable heat, ensuring optimal efficiency in every building connected to the network.



Our commitment to engineering excellence is evident in every component of our District Heating and Cooling Networks. From pumps and pipework to thermal stores and instrumentation, we design systems with flexibility and efficiency in mind, ensuring optimal performance and adaptability.

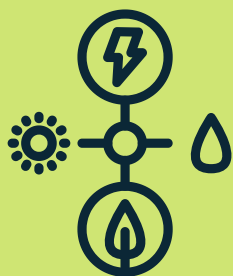


Our systems are highly efficient and more sustainable than small, localised generation systems, reducing carbon emissions. Our network flexibility allows for easy integration with other buildings and heat sources. The operator's ability to select energy sources based on efficiency further enhances the system's overall sustainability.



Discover the full Energy Centre System Process





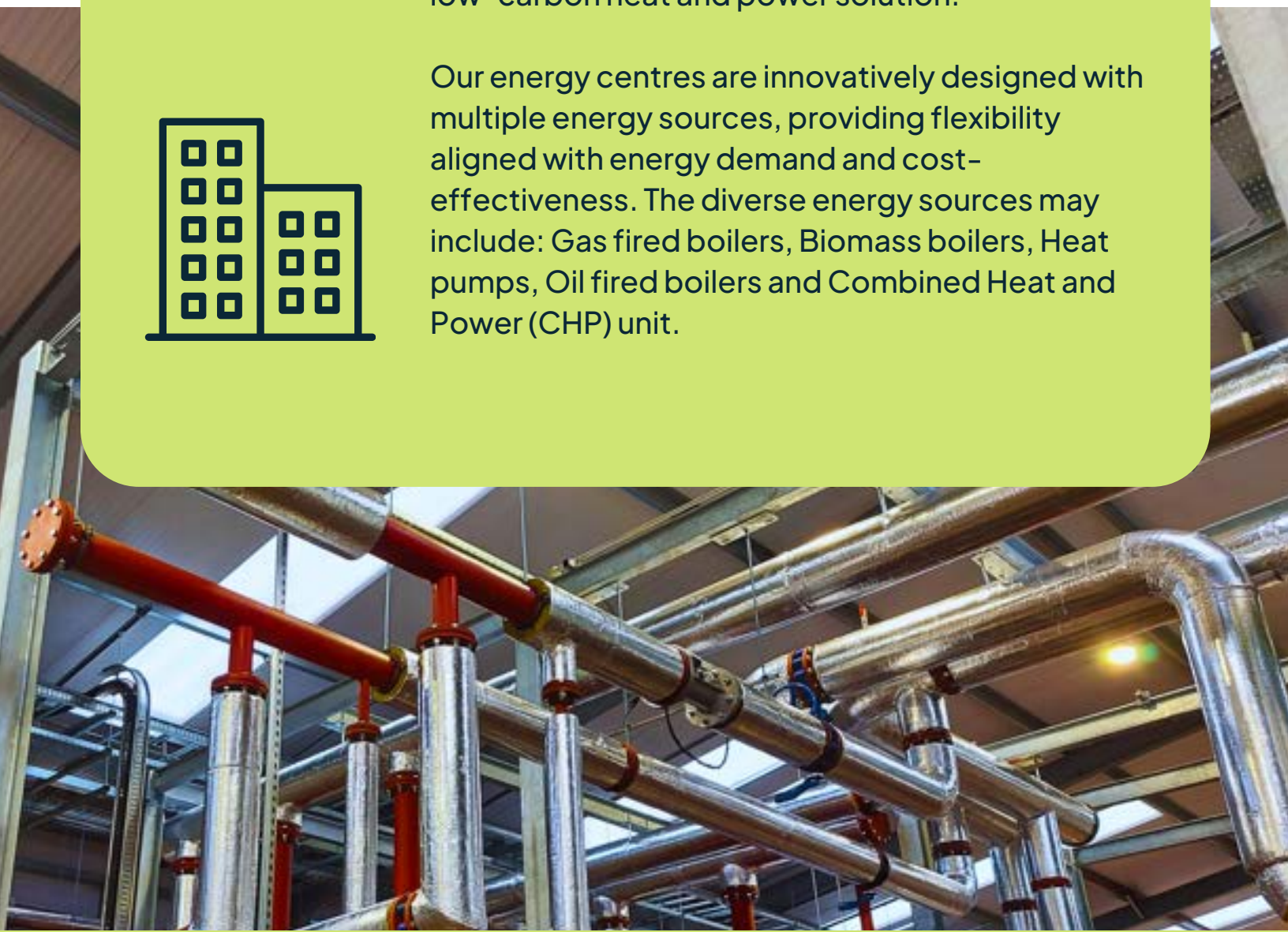
Transform your approach to heat distribution with Colloide's bespoke energy centres. Our cutting-edge technology is meticulously designed to generate heat tailored for custom distribution to buildings or district heat networks, ensuring maximum efficiency and substantial cost savings.



At Colloide, we go beyond conventional solutions. Our energy centres can seamlessly incorporate Combined Heat and Power (CHP) units, offering not only heat but also electricity in an innovative low-carbon heat and power solution.



Our energy centres are innovatively designed with multiple energy sources, providing flexibility aligned with energy demand and cost-effectiveness. The diverse energy sources may include: Gas fired boilers, Biomass boilers, Heat pumps, Oil fired boilers and Combined Heat and Power (CHP) unit.



Discover the ultimate in Heat Pumps





Colloide designs and installs heat pump systems. The heat pump extracts the energy at the source temperature and then raises the temperature to a useable level. A heat exchanger is used to extract the heat from the circuit at this point, with the now cooled medium being returned to the source where it is reheating. Reversible heat pumps can also be used in cooling function which can be important in the summer months. The heat pump works as part of a closed loop, operating between the heat source and the building where it is to be used.



Heat sources include air, water, ground and waste heat. The higher the temperature and larger the size of the source energy, the better it is for providing energy. Colloide designs its systems to maximise the return from the heat source.



Our heat pumps include a control system. The control system will vary depending on the plant, but is always designed to give our customers full control, including the ability to monitor performance remotely.



Discover the ultimate in **Anaerobic Digestion**





The process takes place in an oxygen-free digester, where micro-organisms convert organic material such as food waste, slurries and crop residues into:

- Biogas: a renewable fuel
- Digestate: a powerful fertiliser or soil conditioner

We have depth and breadth of expertise in developing agricultural anaerobic digestion plants across all areas of plant design up to 5MW.



We have the in-house capability to offer a full service from design right through to on-site build and commissioning of the system.

We also offer an after sales service which provides peace of mind to our clients that we will be on hand to provide ongoing support.

Acting as the design & build contractor and supported by our supply chain, we can offer a 'turn key package' and take care of all aspects of the system including upgrading biogas to biomethane. Our 'full circle' service removes the pressure & time constraints for our clients.



Our in-house team is knowledgeable in the industry and can provide advice on the grants and incentives available within both the UK and ROI.

Discover the ultimate in **Biomass Heating**





We design and install the complete system including the boiler, biomass storage, pipework, buffer vessels and controls.



We also offer a packaged biomass system called the 'Heat Pod' which is a complete heating solution within its own building, ready to deliver to site. This system includes boiler(s), pipework and storage; all within one unit. Some Government initiatives are currently in place to support the installation of biomass boilers. The SSRH is currently supporting biomass boiler installations in Ireland.



Whether furnace control, pellet conveying, buffer management, hot water preparation, weather controlled heating circuit with a weekly program for two circuits, or the connected solar heating system: all of this can be controlled via a touchscreen directly on the boiler or via the internet from any PC, smartphone or tablet. It's a lot, but it's easy to handle as the images on the touchscreen are self-explanatory.



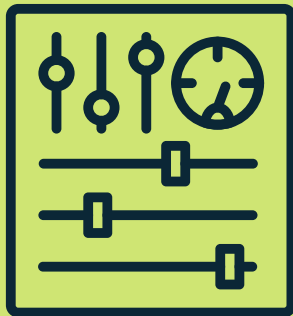
Discover the ultimate in **Control Systems**





We couple motor control centres to PLC/SCADA systems to give our customers what they want.

Our success as a SCADA / PLC Solution provider lies in our ability to provide easy to use systems which are flexible, maintainable and offer a secure software platform.



Whether you prefer open operating platforms like Siemens or Allen Bradley, our systems are engineered for seamless integration with your existing infrastructure.

Every project, regardless of its scale, undergoes on-site commissioning to ensure precision and functionality. We specialise in integrating telemetry and alarm systems across multiple sites into a unified and cohesive system. This approach results in a streamlined control landscape with remote access for our clients.



Our systems prioritise practicality and efficiency, including dial-out alarm systems and ongoing support, ensuring the smooth and reliable operation of your processes.

Our Experience

We have a wealth of experience in providing both new solutions and upgrading or expanding existing energy systems. Engineered for tomorrow, our systems adapt to changing energy demands, maximise efficiency and minimise your carbon footprint.



Examples of Customised Solutions



Bunhill District Heating Network for Islington Council

Colloide were employed as principal contractor for the innovative Bunhill Energy Centre and phase 2 of the district-wide heat network. This was a pioneering project that recovers heat from the London Underground and stands as the first of its kind in Europe.

The scheme was funded by Islington Council, Bunhill Ward, and the EU CELSIUS research project (managed by the GLA in London). The expansion of the heat network and the addition of heat production capacity benefited 454 homes initially, with the potential to reach an additional 1,000 homes.

The project encompassed an extended district heating network, a cutting-edge energy center, and the upgrade of 12 plant rooms. Notably, the District Heat Network seamlessly navigated through four live sites, including a new school, a multi-story housing development, and a versatile multi-use development.

The project featured installation of over 1600m of underground district heating pipework and navigating complex routes in London. The upgrade of 12 plant rooms was executed in two phases to accommodate heat from the district heating network, ensuring continuous operation. The Energy Centre integrated innovative technology, including heat pumps sourcing air from the London Underground, two CHPs for electricity and heat production, and a centralized SCADA system for overall control, marking a significant step towards a sustainable and efficient energy future.

Viking Energy Network Jarrow for South Tyneside Council

Colloide served as the principal contractor for the pioneering Viking Energy Network, a revolutionary renewable energy initiative extracting heat from the River Tyne and supplying it to 11 structures in Jarrow, South Tyneside.

This groundbreaking, multi-million-pound project, the first of its kind in the UK, offers significant advantages, annually reducing carbon emissions by approximately 1,035 tonnes and saving around half a million pounds in fuel costs.

Employing a synergy of three renewable technologies, including a river source heat pump, a 1-megawatt solar farm, and a combined heat and power (CHP) back-up system, the network minimizes reliance on fossil fuels and maximizes energy efficiency.

Colloide designed and constructed a state-of-the-art energy center at Jarrow Staithes, strategically positioned on the River Tyne's south bank, housing the water source heat pump and acting as the operational hub.

This facility efficiently extracts, elevates the temperature, and converts heat from the river into hot water. The hot water is distributed to connected buildings through a network of buried district heating pipes, meeting their heating needs with remarkable effectiveness.

The scheme aims to operate close to carbon-neutral during much of the summer.



Our Capabilities Meet Your Needs

We understand each project is unique with bespoke requirements. That is why for 20 years our capabilities have expanded to enable the delivery of a wide range of options.

Capabilities

Supply chain

We have sourced suppliers and developed a reliable relationship, with suppliers based across the UK and Ireland. Our supply chain is accredited to high Quality, Health and Safety and Environmental standards.

We have the capability to deliver your requirements anywhere across the UK, Ireland, Scotland, and Wales.

Location

Availability

We have the capacity to engineer equipment on a short lead time, due to our ability to design and build off-site.

Our standardised design can be adapted to meet bespoke requirements and many applications across diverse sectors.

Flexibility & adaptability

Our Product Range



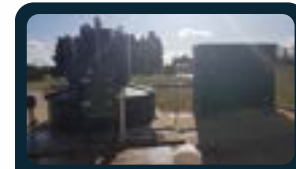
Activated Sludge Treatment



Anaerobic Digestion



Biomass Heating and Heat Pumps



Chemical Dosing



Bridge Scraper Systems



Clarifier Systems



Control Systems



DAF



Deep Bed Sand Filters



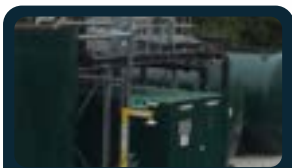
District Heating & Energy Centres



Dynamic Sand Filters



MBBR



MBR



Membrane Filtration



Multi Cell Media Filtration



Pressure Filters



Pumping Stations



SBR



Tekleen Filters



Rapid Gravity Filters



Colloide



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