

Welbeck Anaerobic Digestion Biomethane Gas to Grid Plant



Project:	Welbeck Anaerobic Digestion Biomethane Gas to Grid Plant
Client:	BayWa r.e. Bioenergy GmbH (BayWa) / Biogas Meden
Project Description:	BayWa r.e. / Biogas Meden instructed Natural Power to carry out technical advisory work in support of an anaerobic digestion biomethane gas to grid project to be built at the former Welbeck Colliery in Nottinghamshire. The plant comprises 500 Sm ³ /h biomethane generation, 360kWe / 390kWth biogas CHP and 560kWth biogas boiler. The work supported pre-construction, construction and post-construction activities.
Services Provided:	<p>Technical Due Diligence</p> <p>Natural Power conducted a detailed pre-construction review of the following areas;</p> <p>(1) Contractual Review. Natural Power reviewed the land lease agreement and electrical grid connection offer, and advised on the gas grid connection process.</p> <p>(2) Feedstock Review. Natural Power reviewed the feedstock storage capacity, suitability of feedstock and forecast biomethane production, use and management of digestate, assessment of feedstock sustainability for eligibility to the Renewable Heat Incentive scheme, using the UK government's Solid & Gaseous Biomass Carbon Calculator tool, and advised on the proposed feedstock supply contracts.</p> <p>(3) Environmental and Permitting Review. The planning application, planning permission decision notice and conditions, and requirements for environmental permit were reviewed. Natural Power also reviewed the following environmental impact assessment documents; Odour Assessment, Noise Impact Assessment, Ecological Assessment, Flood Risk Assessment and Transport Assessment. Comments on geotechnical and hydrological site conditions were also made.</p>



Services Provided:

Renewable Heat Incentive support

Further to Natural Power's due diligence review, which included advice on feedstock reporting, compliance and sustainability requirements for the Renewable Heat Incentive (RHI) scheme, Natural Power was instructed to make RHI applications for the CHP and biogas boiler accreditations, and biomethane registration. Natural Power designed an RHI-compliant metering system, produced the RHI Independent Report on Metering Arrangements for CHP & biogas, and submitted the RHI applications, including the Fuel Measurement & Sampling Questionnaire. Natural Power liaised with Ofgem throughout, which involved managing the applications and facilitating the installation of additional meters for extensions to heat production plant and additional feedstocks. Post-accreditation, Natural Power has continued to manage the RHI quarterly submissions of meter readings and sustainability calculations, thus ensuring ongoing compliance. To facilitate this, Natural Power built a bespoke operational log to record meter values and calculate eligible heat outputs.

Site Audit

Natural Power was commissioned to carry out a pre-takeover site audit examining planning and environmental, civils and construction, and mechanical and electrical installation aspects of the site. The purpose of the audit was to assess whether the site was delivered in accordance with the planning and environmental requirements, and was constructed and installed to a good overall standard which meets the relevant standards and best practice in the UK. Further to site visit, Natural Power produced an Audit Report detailing findings and recommendations.

Added value:

Natural Power assessed the key design interfaces, as well as the construction and installation of BayWa r.e.'s Welbeck Anaerobic Digestion Biomethane Gas to Grid Plant, to ensure that the project was delivered successfully, was compliant with planning and environmental permits, and that their asset would perform reliably and optimally. Natural Power further supported BayWa r.e. in the complex process of gaining RHI registrations and accreditation, and in their continuing reporting and compliance requirements.

// Natural Power assisted our project at various key stages with a high quality of service. Their all round expertise provided us with essential advice in the planning and subsequent site audit, covering all aspects of our project. Our RHI applications and ongoing support have also been expertly managed. //

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For full details on our ISO and other certifications, please visit: [naturalpower.com/company](https://www.naturalpower.com/company)