

## Your Trusted Partner.

### Who Are We

Synergie Environ Ltd (SEL) is a sustainability and low carbon engineering consultancy, part of the PD&MS Engineering group.

### What We Do

As one of the UK's leading Anaerobic Digestion (AD) / Energy from Waste (EFW) and biofuel delivery businesses, we will support you to deliver the full project life-cycle from feasibility through to permitting, construction, handover and optimisation and asset management through operations.

SEL has delivered a large number for AD and EFW plants, generating gas, electricity and heat, for use by the client or exporting to grid. We are technology agnostic and bring experience to a number of sectors including; food and drink, whisky distilling, pharmaceutical and organic waste recover via pyrolysis.

We can take projects from feasibility, through procurement and detailed design, and ultimately to construction and commissioning, managing and co-ordinating the various contractors on site to deliver the project on behalf of the client.

### Project Experience

#### Confidential Pharmaceutical Client

This anaerobic plant is the first of its kind in the UK. SEL took the project from feasibility, through construction and commissioning, working in partnership with the client. The anaerobic plant produces biogas from liquid waste feedstocks with high organic content. The project takes a previous waste stream and converts it into a value stream with the added benefit of providing greater energy resilience. When at full load the project will offset greenhouse gas emissions by nearly 6,500 tonnes of carbon dioxide equivalent per year.

#### Confidential Dairy Client

A highly technical project which combined AD with a gas upgrade plant, followed by re-injection of gas to the national gas grid, and included the additional elements of a Combined Heat and Power (CHP) plant and biogas boiler. The site used whey from the milk process plant and feedstock to produce biogas. We acted as both Client Engineer and Client Project Manager for the construction and commissioning of this project.



#### Confidential Whisky Client

SEL project managed this installation through feasibility, planning, permitting, procurement and construction phases. We have a long-established working relationship with the client and have worked hard with the management team over a number of years to help this exciting AD project come to fruition. The project will deliver a malt whisky distillery which is powered entirely from renewable energy sources, with the on-site combination of biomass for the primary heat source, and electricity from the CHP powered by biogas from the anaerobic digestion plant.

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### Case Study

#### Standard Gas

Standard Gas' mission is to achieve, worldwide and at scale, the commercialisation and implementation of advanced thermal conversion technology, transforming biogenic and residual wastes into sustainable, renewable energy and valuable products, to power homes, businesses, other organisations, transportation and infrastructure. It is looking to do this by using their ATC technology which transforms waste into a clean biogas or synthesis gas (syngas) and biochar, which captures and removes carbon. Synergie Environ Ltd (SEL) is responsible for the design, procurement, installation, and commissioning of all the required processes and mechanical balance of plant (BoP) equipment to complete the required testing of the technology. This scope also included all the required ancillary work needed to ensure the safe installation and operation of this equipment. Some of the work required was, but not limited to, civils work to the site plot and electrical work to ensure a stable power supply. SEL prepared a detailed scope of work document to ensure that all design criteria would meet key safety criteria, progressed

process drawings, while also speaking to various vendors to progress the design and procurement of the relevant equipment. We also took on the role of project management of the BoP process to feed into the larger project plan controlled by Standard Gas. The project is currently at pre-procurement phase.

The work packages to be delivered by SEL during the next phases of the project are:

- Undertake the role as Principal Designer under the Construction (Design and Management) Regulations 2015 for the Works.
- Undertake the role of Principal Contractor under the Construction (Design and Management) Regulations 2015 for the Works.
- Detailed design review including attendance at HAZOP meetings.
- Procurement of, and co-ordination of the installation of all required BoP items.



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### Case Study

#### RPS

##### OVERALL PROJECT SCOPE

The RPS Scot project concerns the design and build of a pyrolysis facility located in Scotland that would process tyres down to their constituent parts for resale. Synergie Environ Limited (SEL) has been brought on to act as Principal Contractor, Principal Designer, Client Engineer and Project Manager for the project. For this SEL will consolidate all contracts and manage all interfaces between the various parties to ensure a seamless project delivery but without the premium normally charged by an EPC contractor. SEL will also perform overall project management surrounding programme and risk management; put out to tender, appoint and manage all minor contractors; manage civil design and construction, conduct a detailed design verification review against specification including HAZOP and COMAH requirements, obtain planning consent and all appropriate permits as required by legislation for the development, and act on behalf of the client on all matters in relation to the construction of the plant. SEL will have a full-time presence on site during the construction works managing all contractors as well as fulfilling the role of Principal Contractor and Designer under the CDM regulations.

##### TO DATE WORK ONLY

The RPS Scot project concerns the design and build of a pyrolysis facility located in Scotland that would process tyres down to their constituent parts for resale. Synergie Environ Limited (SEL) has been brought on to pull everything together by acting as Principal Contractor, Principal Designer, Client Engineer and Project Manager for the project. SEL has so far split the project into appropriate work packages and developed these to create technical specifications and preliminary contract documents for contractor consideration and signing. SEL has engaged with multiple vendors for these work packages and sought initial proposals for initial screening and comparison to decide with RPS Scot on preferred vendors. In addition to equipment and civil vendors, SEL has contacted appropriate local councils and government agencies, such as SEPA, to aid in planning and permitting works. SEL has been performing overall project management including programme and risk management duties while acting on behalf of the client on all matters in relation to the construction of the plant.

