



# Absl biomethane solutions

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The Swindon Plant is the first facility in the world to convert household waste into grid-quality biomethane. ABSL is the owner, developer and technical lead for the project.

The waste is conveyed to an oxy-steam fluidised bed gasifier to produce a dirty syngas. This gas is then heated and exposed to oxygen free radicals to catalyse the reformation of tar in a plasma furnace.

The tar free syngas is cooled in a boiler with the steam that is produced taken to be used elsewhere in the process.. The gas is filtered to remove particulates and scrubbed to remove acid and alkali contaminants. At this point we have cool, clean, chemical grade syngas.

The clean syngas is compressed and polished before being converted into a usable product. The injection of steam in a water-gas shift transforms the gas to 50/50 biohydrogen / carbon dioxide mix. The biohydrogen can be removed as an end product at this stage, or passed over catalysts to convert it into a combination of biomethane and carbon dioxide. The biomethane is injected into the national grid and the carbon dioxide is captured and sold.

The carbon dioxide is separated, liquified and sold to industry, thus ensuring it doesn't return to the atmosphere. The remaining natural gas is metered into the grid which transmits it to filling stations to be compressed and used as a low carbon alternative to diesel for HGVs.

Developing advanced biofuel projects poses significant challenges, including building a robust business case, sourcing feedstocks, securing off-take agreements, engaging contractors and raising finance.

ABSL works with engineering contractors, developers and owners to develop business cases, support planning and permitting applications, design advanced biofuel, gasification and tar reformation systems.

ABSL's RadGas technology offers reliable, high efficiency transformation of solid waste and biomass into a clean syngas, free of tars and particulates, which can be converted into biofuels such as hydrogen, biohydrogen, biomethane, biomethanol and sustainable aviation fuel.

We welcome discussions to license RadGas to individual projects. Licenses would incorporate engineering support for the technology and expertise gained from thousands of hours of proven operation in our Swindon commercial demonstration plant, where operations and maintenance teams can receive training.

We have proven expertise in characterizing wastes and understanding how the characteristics vary over time; waste and biomass storage and transport; gasification and pyrolysis; tar reformation; syngas cleaning; the catalytic conversion of syngas into hydrogen, BioSNG, liquid fuels, methane and propane.

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