Guy and Wright have been growing tomatoes since 1928, the business having been started by John Jones' great-great-grandfather in Hoddeson, moving to Green Tye near Ware in 1961 and has been joined by the fifth generation in the form of son Robert and daughter Kate - Richard Shepherd Barron reports.

£1 million investment in Hertfordshire tomato growing

In 2000 they installed 5 micro turbines for generating their own electricity on-site with all the heat and 90% of the CO2 being used in the greenhouses. As gas prices rose, they decided to construct an anaerobic digestion plant for methane production and five years later added a 980KW straw-fired **Graso** boiler using, preferably, linseed straw but also rape and wheat. In the winter months the boiler is run virtually continuously through the night when the demand for heat is greatest as tomato production is now possible for 10 months a year. The straw boiler benefits from RHI payments and the methane facility is awarded with ROC's; these payments make a considerable contribution to the viability of the investment.

Towards the end of 2012 they realised that the micro turbines were coming towards the end of their lives so the decision was made to invest in a large V12 MWM TCG 2016 500KW engine and generating unit from **Edina**. In order to use the gas in the green houses the exhaust gas from this engine has to have water and sulphur cleaned from it and the CO 2 extracted by the Dutch **Codinox** exhaust catalyst system, supplied and installed by **Green Combined Power** from Thurmaston, Leicestershire. This has an ingenious system of catalyst "bricks" so that the CO2 gas piped into the greenhouses is totally safe for the growing crop. Heat and the CO2 levels are computer-controlled. The Edina unit now provides most of the heat and all of the electricity for the site as well as a high proportion of the electricity being exported to the **National Grid**. To support this, two new AD storage tanks were installed and also a buffer "bag" holding m3 of methane gas. The supporting pipework for these and the new engine and gas "cleaner" (much of it in stainless steel) was an additional huge investment but this is probably the only UK grower using CO2 from their own methane-powered engine.

Food waste for the anaerobic digestion plant for methane production.

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The Jones family can now say with considerable truth "their red tomatoes have the greenest heart you can find". Using non-pesticide management of the crops with bee pollination helps their green credentials and an additional benefit is that this new heat and gas system is reducing fungal type disease such as *botrytis* in the three tomato varieties grown at Green Tye – *Encore, Santasian and Piccolo.* Customers are large retailers including Sainsbury's and local wholesalers.

An additional 10,000 m3 lagoon has just been completed to hold the digestate from the AD system and this supplies two local farmers for their OSR and cereal crops who are getting continuing high yields from this "green" fertiliser. The total site at Green Tye is 70 acres and currently the six glasshouses cover 3 acres. There are plans afoot for further glass to be built now that they have invested in the new comprehensive heat production and electricity generating systems. ◆