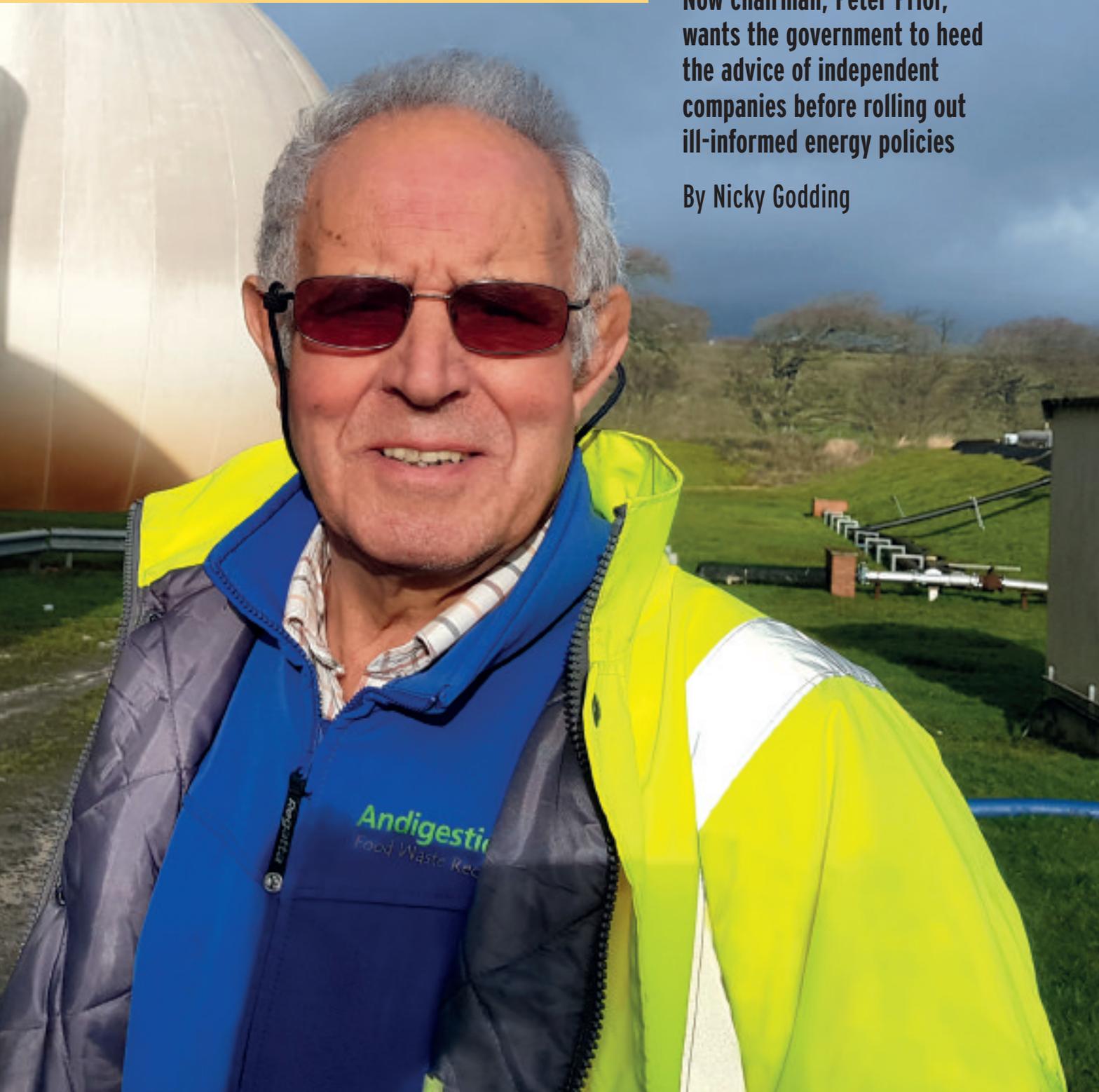


WASTE NOT, WANT NOT, LISTEN HARDER

Andigestion pioneered the UK's first commercial "food waste only" anaerobic digester. Now chairman, Peter Prior, wants the government to heed the advice of independent companies before rolling out ill-informed energy policies

By Nicky Godding





In the UK, we throw away £13 billion of edible food every year

More than seven million tonnes of edible food is being thrown away, and that includes an incredible 86 million uneaten chickens, according to the waste campaigning organisation WRAP – talk about a waste of a life.

Of that seven million tonnes, the UK's manufacturing and retail sectors waste 1.9 million tonnes of food and drink a year, of which 1.1 million tonnes is avoidable, adds WRAP.

Aside from the obvious question - why is so much food wasted in such an apparently cavalier fashion - how is our food waste being dealt with?

Increasing amounts of it are being commercialised and turned into a resource. Instead of being sent to landfill, food waste is being used to produce energy and fertiliser.

Many councils are now collecting household food waste and sending it to be processed into biogas via anaerobic digestion, which feeds into our national grid.

One pioneering company that has established itself in Gloucestershire is Andigestion, part of the Summerlease Group, a leading investor and innovator in the renewable energy sector.

The growth of the renewable energy industry, powered by generous government subsidies, enabled an increase in commercial anaerobic digestion across the UK.

Andigestion opened its second site, representing a £12 million investment, at Bishop's Cleeve, Cheltenham in 2015, at the landfill site operated by Grudon Waste Management. Andigestion's biggest contract is with Gloucestershire County Council.

Peter Prior, who joined the family business in 1962, is its outspoken chairman and a pioneer within the industry.

He established Andigestion in 2004 to develop and commercialise anaerobic digestion as a viable waste treatment technology. The company began by developing a research plant in Cambridge and subsequently converted a site at Holsworthy, Devon to process food waste instead of farm slurries.

Flawed government renewable energy policies

— Andigestion —

There are now more than 400 operational anaerobic digestion plants in the UK (140 are commercial, industrial food waste plants. The rest, typically small, are fed by agricultural products).

Around the same number were going through local planning until the government drastically reduced its renewable subsidies, making the process of converting food waste to energy via anaerobic digestion less commercially viable.

FAST FACTS ON ANDIGESTION'S BISHOP'S CLEEVE PLANT

- The plant can process 34,000 tonnes of dry food waste per year. Currently it processes between 25,000-26,000 tonnes, which produces biogas that is fed into the national grid, and a nitrogen-rich, organic fertiliser for use by local farmers.
- 70 per cent of the food waste processed at Andigestion's Cheltenham facility is household, 30 per cent is commercial.
- The company collects food waste from around 170 Gloucestershire school and offers a bin exchange service – replacing a full waste food bin with a clean one.
- Andigestion's methane plant is running at full capacity. There are some opportunities to grow through electricity generation, which already powers the plant, and it feeds a small amount of electricity back into the National Grid.
- Andigestion accepts packaged as well as household food waste delivered by the council. Everything it receives is pulverised, with the organic waste forced through 12mm holes to separate it from any packaging, which is shredded and goes to landfill.
- Andigestion advises people not to use expensive biodegradable bags, instead it advocates lining household bin caddies with newspaper or cheap supermarket carrier bags. Biodegradable bags are elastic, and wrap themselves easily around the hammer mill when the food is being pulverised, blocking it up. These "green" bags do not go into the digester, either, but get sent to landfill. However, if householders are composting themselves, biodegradable bags, while expensive, do the job.

“I would like to see a ban on food waste going to landfill, which would make anaerobic digestion more viable”

Peter is vocal in his criticism of the government’s renewable energy policy. He says it has been influenced by the National Grid which significantly favours the production of gas/biomethane in preference to electricity.

“The government’s claims as to the amount of gas/biomethane that can be produced by the renewable sector have been grossly exaggerated and probably politically motivated to appear to try and meet the renewable energy directive (RED) for heat,” he says.

“In a 2009 report, the National Grid claimed that by 2020 the UK could be producing 15 per cent of our domestic heat from renewable resources, but we calculate that as of 2016, only 0.56 of one per cent was being produced from renewable resources and getting anywhere near 15 per cent is not credible.

“Currently about seven per cent of the country’s energy is produced from renewable resources, including 26 per cent of our electricity. The majority of energy we use comes from natural gas, coal and petroleum.

“If you use WRAP’s figure of seven million tonnes of food waste thrown away annually and convert that into gas/biomethane you would still only make about two per cent of our domestic demand for gas, and the government is rightly trying to reduce food waste.

“It is a far better use of food waste to produce electricity directly from gas produced by anaerobic digestion as the plant is cheaper and the need for support is much less. It also helps balance the local grid.”



Jason Ward, Andigestion's Commercial Manager

Anaerobic digestion is an energy-from-waste process by which organic matter, such as animal or food waste, is broken down to produce biogas, electricity or fertiliser. This process happens in a sealed, oxygen-free tank called an anaerobic digester.

The government isn't listening to business

Andigestion

Peter feels strongly that the government isn't listening to private businesses such as his, who are on the ground trying to grow the sector. “I would like to see a ban on food waste going to landfill, which would make anaerobic digestion more viable.”

He's not alone. Vision2020, the organisation campaigning for zero food waste going to landfill, says that 40 per cent of food waste still ends up in landfill, producing harmful methane which adds to global warming.

So how important is anaerobic digestion to the UK's holistic approach to waste management?

While it's small, it's very important, says Peter. “It encourages a reduction in the use of landfill, and waste food has to go somewhere. A lot was being sent for composting, but while the fertility remains, the all-important energy was being lost. Anaerobic digestion catches the methane which is then used to either generate electricity or inject biogas into the grid.”

By the end of 2016, the UK had almost 90 anaerobic digestion plants injecting green biomethane into the gas grid, double the

number in December 2015, only 25 of which are based on food waste as a feed stock, according to a report published by the Anaerobic Digestion and Bioresources Association (ADBA). Some anaerobic digesters are being fed by crops grown specifically to make energy and not food. If this was radically increased we would soon have to import a great deal more food to support the population, Peter feels.

The value of the gas produced by Andigestion is £15 per megawatt hour. It receives £80 per megawatt hour in support, based on the date the plant was accredited in June 2015. This subsidy is set to run until 2035. The government has since brought the level of support for producing biogas via anaerobic digestion down significantly. Andigestion is not currently planning any more sites because it doesn't think the waste is available to make them viable propositions until the food waste to landfill regulations are changed.

So what should the government do? Peter advises as little interference as possible. “The support required by the renewable sector to compete with fossil fuels is decreasing and the market should be left to determine which forms of renewables deliver the goods. Don't just listen to large organisations such as the National Grid who have got it utterly wrong in the past. Instead, take notice of the comments of smaller operators such as ourselves and let the market work.”