Some New Year Good Cheer With Home-Made Green Brew

Beverley Nielsen is Director of the Institute for Design, Economic Acceleration & Sustainability (IDEAS) and Senior Fellow at the Centre for Brexit Studies at Birmingham City University.

As we look ahead to 2023 are there many reasons for economic good cheer?

Not according to the British Chambers of Commerceforecasting five quarters of recession from Quarter 3 of 2022, set to deliver a -1.3% contraction and a challenging outlook for the coming year.

Foremost in setting this scene is the anticipated continued sharp contraction in consumer spending, which, accounting for two thirds of GDP, is being hit by a range of factors including rising energy bills, cost of living increases and higher mortgage payments as interest rates continue to increase.

Can exports save the day for the UK economy?

Research by Aston University shows that UK exports to our biggest trading partner, the EU, taking over 40% of exports fell by almost 23% on average in the first 15 months after the introduction of the EU-UK Trade and Cooperation Agreement (TCA).

In January 2021 the value of exports to the EU fell from £14.1 billion in the previous month to £7.6bn, while the value of imports fell from £24.5 billion to £16.2 billion, the biggest fall in trade for both imports and exports in this time period. Although these recovered later in 2021, they both continued to remain below late 2020 levels.

Specialist sectoral research conducted in Autumn 2023 by Birmingham City University's IDEAS institute indicated almost half of companies in Birmingham's Jewellery Quarter have been negatively affected by increased regulatory burdens since Brexit.

Most strikingly British Chamber of Commerce research(released 22nd December 2022) shows over half of their members experiencing problems complying with new export regulations and more than three quarters stating the TCA had not helped them to increase sales or expand. Businesses cited problems administering EU rules on VAT; inconsistent application of customs rules; and new limits on business travel.

For smaller firms these issues can be very significant with Birmingham firms typically emphasising the impact of increased paperwork, not getting any, let alone prompt answers to their queries, having orders returned without explanation. VAT payments are required upfront ahead of customer payments and complex carnet forms along with customer surtax payments were too often making trading uncompetitive.

The Centre for European Reform (CER) has estimated that without Brexit the UK economy would have delivered up to £40bn additional taxes to the Exchequer with the economy losing £33bn in trade and investment. LSE research has indicated Brexit has cost UK households £5.8 billion to the end of 2021.

Investing in a homegrown UK green industrial revolution is one way forward. But perhaps with a more open-minded approach than that taken by our free market government to-date. Hydrogen, long touted as a 'panacea' solution can perhaps play a limited role in domestic heating but cannot be counted on to be readily available or cost effective by 2025 when the Future Homes Standard is due to be implemented and will struggle to catch up with the market position attained so far by

BEVs, according to the UK Science and Technology Select Committee's report, 'The role of hydrogen in achieving Net Zero' released this December.

With a growing recognition of biomethane as one of most flexible and cheapest energy vectors delivering .25p per kwh to generators compared to wind turbine revenues per kilowatt hour of .09p according to sources at the recent National Conference organised by the Anaerobic Digestion and Bioresources Association (ADBA) and with just 650 anaerobic digestion plants in the UK compared to over 9,000 in Germany, perhaps now is the time to incentivise investment into this mature, affordable tried-and-tested solution which could provide between 20-30% of renewable natural gas required for our grid enabling us to heat our homes by harnessing this homegrown sustainable option rather than investing in expensive imported technologies.

As we confront the energy crisis following Russia's invasion of Ukraine and its consequential impact on the cost of living, let alone consider our global climate emergency, it's interesting to note that 78% of British homes are currently heated by natural gas. That this gas is methane, a fossil fuel gas with a high energy efficiency may be an oversight for many users. Methane produces more heat and light energy by mass than other hydrocarbon, or fossil fuel, including coal and gasoline refined from oil. As a rule of thumb 1m3 biomethane provides the same power as 4m3 of hydrogen and 1 kg of biomethane is equivalent in output terms to 1 litre of diesel.

New Scientist has estimated it will take the UK 600 years to convert to heat pumps at our current rate of installation – just under 43,000 were installed last year. EDF, the French utility has recently warned that complete electrification of heating would be 'challenging in terms of the scale of the network and generating (the) capacity […] required'. As we convert road vehicles to battery there will be increasing strains on UK electricity production and capacity. The government's Future Homes Standard, due to come into force from 2025 anticipates that no new homes will be connected to the gas grid from this date. However, the Heat and Buildings Strategy, published this Autumn, was also expected to confirm a nationwide gas boiler ban from 2035, but instead confirmed government's ambition is for all new boiler installations to use low-carbon technology by 2035,and for natural gas boiler installations to be phased out following this. This sentiment was reiterated by James Richardson, Chief Economist at the National Infrastructure Commission at the Anaerobic Digestion and Bioresources Association (ADBA) national conference recently. Their calculations suggest the gas grid will be closed by 2050 as the renewable form of natural gas, biomethane, produced from organic wastes, is not due to be produced in sufficient quantities to provide a sustainable and commercial alternative to fossil fuel methane.

Gas heating consumes around 720 TeraWatt-hours (TWh) of energy every year in the UK which is more than twice the country's annual power consumption. By ameliorating the impact of gas leaks, estimated at around 2% a year, better insulating existing properties and with more efficient use scenarios, it was suggested that 450-500TWh could be sufficient in future. ADBA have highlighted in the past few years that the UK has the potential to provide 20% UK gas needs from renewable natural gas, increasing production to around 135TWh, up from around 20TWh, with representatives at the recent ADBA National Conference suggesting that on the basis of the 140mtonnes of organic products going to waste the UK should be able to produce 250TWhs of this green gas a year or over half the gas required to keep the grid open. Is this outlook in danger of becoming this government's equivalent to Dr Beeching's axe?

Certainly it seems in stark contrast to the way thinking is moving in the EU where energy resilience has been uppermost. Following war in Ukraine, Europe is dramatically revising its estimates of production potential for biomethane through their RepowerEU strategy. They are looking to

increase production from 3 billion cubic meters (bcm) today to 31bcm by 2030 with the potential for 41bcm and 91bcm by 2050.

This is manifesting itself in terms of willing external investment – where there were just 7 funds investing in this area in the UK three years ago, there are now 40 funds and $1.3tr available.

Shell has just purchased Europe's largest biomethane producer, Danish-headquartered Nature Energy Biogas for $2bn and BP purchased Houston-based US biogas company, Archaea Energy for $3.3bn cash plus $800m in debt this October.

It's always been said 'where there's muck there's brass'. Perhaps now, as big oil turns to organic waste to drive its EBITDA, there's good reason for this homemade brew to help us raise a glass and look forward to some good cheer as we head into 2023.