Taking the heat out of climate change

chamberlowcarbon.co.uk/2018/taking-the-heat-out-of-climate-change

Welcome to the Chamber Low Carbon programme where our aim is to show you how the UK's evolving transition to a post-fossil-fuel economy is making businesses more profitable, productive, innovative, competitive, energy-efficient and less wasteful … while helping to keep the world cool.

Fight of the century

However, we are not battling global temperature rises on our own. We will also be looking at how leading corporations, company groups, familiar brand names, governments, local authorities, excellence and research centres, individual innovators and entrepreneurs are tackling and benefiting from the urgent need to help put a swift end to man-made contributions to global warming.

Carbon – friend and foe

The main problem is carbon – an element essential for all forms of life as we know it. However, as part of the greenhouse gases (GHG) carbon dioxide and methane, it is also a threat to life on Earth because of the increasingly dense insulating blanket it is building up around the blue planet. This is the so-called greenhouse effect.

Our problem is that almost everything we do in our present energy-hungry lifestyles

creates carbon emissions. The challenge is to keep the world acceptably cool through the present and the coming centuries by learning how to use green renewable energy – and even then, as little as possible.

At the same time, reducing our carbon footprints also involves using fewer raw materials, being more sparing with water, eliminating or reducing waste generation, increasing recycling and recovery rates where waste is inevitable and minimising what goes to landfill where it can create methane. However, on the upside, well-proven sustainable credentials are a very positive selling point. Reputations do count commercially!

Why is this urgent now?

Part of the worry is the growing concern that natural carbon sinks – such as soils, huge amounts of leaf mould, melting arctic tundra and warming oceans – could quickly reach a point where higher temperatures turn them into natural carbon sources. Instead of helping us, they could work against us. This is the so-called tipping point.

Although the debate itself has at times been heated, there is now a general scientific consensus that GHGs resulting from human activity are a major cause of global warming. While proven links to climate change are as yet more tenuous, it is widely agreed that the recent global increase in extreme weather events – heavy rain, floods, stormy seas, high winds, plus droughts and heatwaves – can be ascribed at least in part to a warm and less stable atmosphere.

How could this affect us in the years ahead?

In addition to the inconvenience, damage and potential loss of life caused by severe weather, increasing unpredictability on a global scale is likely to bring substantial impacts from failed harvests, disrupted food chains, high levels of migration, political instability and distressing refugee crises.

The other way in which a warming world is already affecting us in the UK is through rising sea levels and storms associated with low-pressure systems and high tidal surges. Large areas of agriculturally-productive fenland have already been lost due to artificial drainage and falling land levels. Rising seas are expected to make this worse, with cities as far inland as Peterborough already on the frontline.

Global response

However, the world is fighting back. In December 2015, 197 nations pledged at the COP21 UN https://www.un.org/sustainabledevelopment/cop21/ Climate Change Conference in Paris to put in place measures best suited to their own individual circumstances that will jointly limit any rise in earth surface temperatures during the rest of this century to no more than 2^0C – or preferably 1.5^0C to prevent any chance of irreversible warming if natural carbon sinks were to become runaway carbon sources.

This is not the only high-level international driver. The UN Millennium Development Goals http://www.un.org/millenniumgoals/ signed in September 2000 also committed world leaders to actively combatting poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women. This commitment has now transitioned into the UN Sustainable Development Goals 2015 – 2030 otherwise known as the Global Goals https://www.un.org/sustainabledevelopment/sustainable-development-goals/ and signed up to by the UK Government as well as another 192 countries

UK lead

The UK has taken one of the strongest stances through the Climate Change Act 2008 https://www.legislation.gov.uk/ukpga/2008/27/contents which binds us legally to an 80% cut in emissions by 2050 from a 1990 datum level. But the Government is adamant that such social and environmental commitments include tremendous commercial opportunities. To make these a reality, the Industrial Strategy https://www.gov.uk/government/topical-events/the-uks-industrial-strategy and Clean Growth Strategy https://www.gov.uk/government/publications/clean-growth-strategy of autumn 2017, and 25 Year Environment Plan https://www.gov.uk/government/publications/25-year-environment-plan of January 2018, are designed to create an economy for a post fossil-fuel world.

In the meantime, there is a snag. Evidence from authoritative bodies, such as the Committee on Climate Change https://www.theccc.org.uk/ as the Government's official advisor, suggests that although the UK was 41% below 1990 levels in 2016, we are not on track to meet the UK's fourth carbon budget (2023-27). It adds that to reduce domestic emissions by at least 3% per year, progress will need to be supplemented by more challenging measures. There is additional evidence that following an impressive 5.8% CO_2 drop in 2016, emissions fell a further 2.6% in 2017 aided by a 19% decrease in coal use.

Action by the many

There are clearly many things that Government is well-positioned to do, such as continuing to phase out coal-fired power generation. Minister for energy and industrial strategy, Claire Perry, also made a strong personal commitment early this year to make carbon capture, utility and storage (CCUS) a workable technology. She explained that, "I see my job as to decarbonise, keep bills down and develop technologies that we can export around the world". Carbon is definitely in her crosshairs.

But there is also a great onus on businesses, companies and individuals to do more, albeit in their own self-interest. There is also lots of encouraging news to tap into.

Learning by example

The Low Carbon Programme is a delivery partnership between North & Western

Lancashire Chamber of Commerce, East Lancashire Chamber of Commerce and Industry, Businesswise Solutions Ltd and BOOST. Our aim is to help Lancashire businesses save money and cut their carbon footprints. The £2 million part EU-funded programme provides a suite of free services aimed at improving energy and environmental efficiencies, introducing on site renewable energy generation and cutting costs.

We can also help you to take new pieces of low carbon technology to market via local manufacturing routes backed by funding opportunities, skills development … and assistance in finding your dream customer!

In summary, we provide support in reducing your energy bills, GHG emissions, on site water use and waste. At the same time, we help to improve your office/shop floor efficiency, install solar/wind and other renewable energy systems on site, use corporate social responsibility (CSR) to access to new markets and find markets for low carbon innovation/technology products.

However, we will also on occasion dip into the experience of other leading private and public sector initiatives, such as Waitrose's use of biofuels for its road fleet, IKEA's commitment to produce as much green energy as it consumes by 2020, Aldi's ambition to secure 'carbon neutral' status in the UK and Ireland by 2019 and Buckinghamshire plans for a 76-acre 15MW subsidy-free solar farm supporting the UK's first "carbon-negative" business park.

Opportunity areas

Local and regional companies have a very broad range of interests. However, there are key sectors and industries where either significant low-carbon progress has already been made, supply-chain opportunities may exist, or progress urgently needs to be made.

The UK renewable energy industry has been a major success story in the last half a decade that we will refer to in more detail in the near future. Progress has been made in two critical areas. The first is a systematic reduction in energy production costs from large and remote offshore wind farms that has far-exceeded original expectations. This has been linked in parallel with the extremely fast emergence of battery and energy storage systems on a scale from large utility companies down to household and electric vehicle (EV) level.

The other is the rapid development of smart technologies. These make it possible for households and businesses to generate, use and trade green energy from on-site micro-solar and wind turbine systems to both the grid and to/from local customers. However, according to a new joint report from Imperial College London and OVO Energy https://www.ovoenergy.com/binaries/content/assets/documents/pdfs/newsroom/blueprint-for-post-carbon-society-1.pdf they could also cut the cost of decarbonising the UK's housing stock by circa £7 billion annually. The report further predicts that up to £3.5 billion could be saved from vehicle-to-grid (V2G) EV charging.

Road to Zero

And that will take us on to the low-carbon transport revolution and the Government's new Road to Zero https://www.gov.uk/government/news/government-launches-road-to-zero-strategy-to-lead-the-world-in-zero-emission-vehicle-technology strategy which is important in providing opportunities for companies, organisations and individuals to make a real difference as OEMs, service providers and green motorists.

Clearly, the low-carbon revolution is not just a two-way but a multi-way street, as our team is keen to prove. Over the next two years we hope to show that stepping up to the low-carbon plate is not a passing trend or fad but an indispensable new way of life where it's cool to be cool.