Thematical Network Frome
Switch to a Renewable Future
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Can Frome Become a Fossil Free Town?

On 5th March 2016 Frome Town Council is launching a discussion document setting out a new target for Frome to be 'fossil-free' by 2046. That means generating the power and heat we need to live, work and travel without using fossil fuels, or producing greenhouse gas pollution.

To be free of fossil fuels within 30 years is a huge challenge, but it's one which reflects the outcome of the United Nation talks on climate change in Paris in December 2015. It's a challenge which every village, town and city in the UK and beyond, will need to consider.

Since Paris 150 cities around the globe have signed 'L'Appel de Paris' a pledge to put the Paris Agreement into practice. In the South West, Bristol has pledged to be 'carbon neutral' by 2050, but Frome is the first town in the UK to look to take up the challenge of becoming fossil-free within 30 years.

Becoming fossil free is about making Frome even cleaner, less polluted and more efficient than it is now. It's about creating new skilled jobs and business opportunities, and attracting new investment, innovation and ideas to the town.

It's about having greater control and ownership over our essential energy services, so that we reduce the cost of energy to our homes, neighbourhoods and businesses and find fairer ways of paying for the energy we use.

It means strengthening our local economy, with less of the money we spend on energy going to waste, and more of it being spent with local energy providers and community energy companies in which local residents have a stake.

And it's about making Frome more resilient and better equipped to deal with the shocks and bumps which a changed climate will bring over the next three decades and thereafter.

COP21 and the Paris Agreement - what it means

In December 2015 nearly 200 countries convened in Paris for the United Nations Framework Convention on Climate Change (COP21). Delegates agreed to 'emission pathways consistent with holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C'.

The detailed implications of what this lower temperature target means are still being assessed but already it is clear that:

• For the 2°C up to 80% of existing, identified reserves of coal, oil and gas, need to remain in the ground - that fraction will be ever higher if we are to stay below 1.5°C.

• By 2035 the world has to be greenhouse gas neutral - meaning we can only emit as much greenhouse gas pollution as can be safely absorbed by carbon sinks such as forests. This means most of the heat and power the world requires will need to be fossil free and not produce any carbon pollution.

• Subsidies for fossil fuels, estimated to be £340 billion in 2014, will need to end. A rapid shift in investment from fossil fuels to energy efficiency and renewable energy is required. The International Energy Agency predict that investment in excess of £36 billion will be needed between now and 2035 to make this transition a reality.

• The market for energy efficiency and renewable energy is set to become one of the world's biggest, estimated to be worth £1.4 - 2 trillion a year by 2020.

• In the UK the fastest growing sector of the economy is the clean energy sector which has grown 30% in three years. In 2013 the turnover in the clean energy sector was £120 billion, and 11,500 companies employed 400,000 people.

• Across the South West the renewables industry now employs 12,800 people and is expected to employ 16,000 by 2020. To fulfil the Paris agreement the renewables sector will need to expand further creating new jobs and opportunities in the region.

The impacts of a changed climate system

COP21 also highlighted just how sensitive the global climate system is to even modest changes in the average global temperature.

A rise of 2°C means that island nations such as Kiribati, Tuvalu and the Marshall Islands will be inundated by raised sea levels displacing entire nations. An average increase in global temperature of just 1.5°C, combined with acidification of the oceans is expected to lead to the death of coral reefs such as the Great Barrier Reef. Reef systems are estimated to support up to 25% of fish species and the livelihood of millions of people around the world.

2015 - a year of climate change

Climate change has frequently been approached as a problem for the future - an issue for later generations to address. But 2015 saw an unprecedented number of exceptional weather events and broken weather records even after a decade of such events. According to the Met Office Hadley Centre "2015 was a record-breaking year for our climate. Global mean temperatures reached 1°C above pre-industrial levels for the first time and the year's average global temperature was the highest ever recorded."

Flooding in Scotland and the north of England during the winter of 2015-16 provided a graphic illustration of how vulnerable large parts of the UK are flooding, and followed extensive flooding in Somerset during the winter of 2013-14. Between 23rd December 2013 and 28th February 2014, the Association of British Insurers found that insurance claims were running at £6.7million a day from homes and businesses hit by flooding.

In Frome, Wallbridge is vulnerable to flooding when the River Frome breaks its banks and was inundated in January 2014. In February 2016 the Environment Agency revealed that 716 homes in Somerton and Frome remain at risk of flooding, and that £1.2million will be needed to pay for improvements, as part of larger investment in flood defences across the region.

The increased intensity of rainfall now being experienced, is in line with climate models, but the frequency, scale and nature of flooding over the last 10 years suggests that we may be underestimating flood risk in the UK, and allowances made for the cost of flooding may need to rise.

The message is clear - climate change is a problem today and we need to address not just the symptoms and impacts, but the causes as well. The Paris Agreement presents us with a global and a local challenge. Addressing it will create one of the world's biggest markets as investment shifts from fossil fuels to energy efficiency and renewable energy. In Frome, the transition presents us with the opportunity to create new high skill, high value jobs, a stronger local economy and a more secure, prosperous and resilient town.

Realising the full potential of renewable energy in Frome could create 840 new jobs and financial benefits in the order of £42million.