

Agenda Item:

- A) Thame Town Council agrees to commit to some immediate actions and commit to completing a detailed Strategic Action Plan aimed at doing all within its powers to contribute to halving Thame's CO2 emissions by 2030, and to aim towards reaching net zero carbon in Thame by 2040.
- B) Agree to report back on the plan and its progress in 6 months time.
- C) To declare a 'climate emergency' to give the issue the focus and awareness it needs.

• Context: IPCC Report

The Intergovernmental Panel on Climate Change (IPCC) released a special report in October 2018 to summarise the current scientific consensus on how global warming might be limited to 1.5 °C and the likely consequences of greater levels of warming as a result of failing to achieve this end. SEE LINK <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>

- Human activity has already caused 1°C of warming
- To limit warming to 1.5°C it will be necessary to halve global carbon emissions by 2030 and achieve near net zero by 2050
- Consequences of 2°C warming are significantly worse than 1.5°C across all areas in the report

Currently action is falling far short of what's needed even to limit warming to 2°C. The likely global failure to achieve this target would result in increasingly severe consequences including very large scale water and food shortages, widespread flooding, heat related morbidity, mass migration of people and large scale destruction of the natural world (see also IPBES global assessment report on biodiversity & ecosystems, UN May 2019) <https://www.ipbes.net/document-library-catalogue/summary-policymakers-global-assessment-report-biodiversity-ecosystem>. These would result in substantial political and economic instability and likely to impact well before the end of the century.

In terms of what is required the IPCC states:

"...rapid, far reaching and unprecedented changes in all aspects of society"

NASA - <https://climate.nasa.gov/evidence/>

• The Proposal:

- Acknowledge that Climate Change is urgent and the issue that subsumes all others and to act accordingly across all areas. Recognise that the UK needs to aggressively reduce carbon output and reach neutrality as quickly as possible and that all government (local, regional &

national) have a huge part to play in this and are well placed to 'lead the way' and to raise awareness more widely, and thereby

Declare a Climate Emergency and commit to a net zero carbon future for the town by 2040 (though the latest reports are suggesting 2030)

- Consider appointing a 'Sustainability officer' to ensure that all Council activity is viewed coherently with carbon footprint and climate change at the forefront of all decisions and all activities undertaken by the council and plans get fully integrated
- Consider setting up a working group and agree the strategic plan for Thame (by a set date, to be agreed) to achieve net zero carbon and bring these plans to fruition. Propose Thame Green Living Working group support for strategy and action delivery, along with possible support from University Masters students (Henley has been using this free resource from Reading university – we could investigate similar with Oxford).
- Not to delay taking as many actions as possible now, whilst the overall strategy is being worked on. Many of which are money saving, no cost, or low cost initiatives (see separate document)
- Continue to extend and build on achievements to date included in the Green Living Plan and the Thame Neighbourhood Plan etc. towards such aims, as electric vehicle charging points, sustainable buildings, energy saving, encouraging walking and cycling throughout the town, reduce grass cutting for increased bio-diversity etc.
- Make public a bi-annual report on progress made against targets

• Reducing Carbon

** In the UK the average individual carbon footprint is about 9 tonnes of CO₂ per year - so, for the population of Thame, that 11,000 x 9 = 99,000 tonnes of CO₂ per year!

Individuals simply cannot make the necessary reductions by themselves. Society needs to change its laws, taxation, and infrastructure, to make low carbon living easier and to be accepted as the new normal.

The good news is, reducing carbon has social, environmental, health & economic benefits and can create more healthy, resilient, more self-sustaining towns.

In particular with a focus on reducing energy demands (e.g. insulating & efficiencies) and shifting to clean energy with less reliance on importing polluting, and increasingly expensive fossil fuels it can help minimise fuel poverty, whilst also improving air quality, boosting the local economy and creating jobs and training.

There are also associated health benefits e.g. from more active lifestyles and an improved diet, with the CCC suggesting just a 20% cut in beef, lamb and dairy to reduce the carbon footprint with associated health benefits (CCC 2nd May 2019). In addition, significant health benefits from improved air quality.

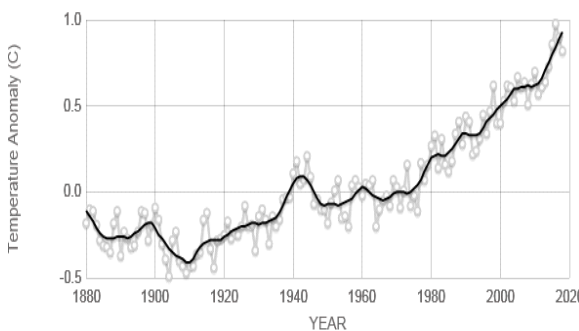
• Recommendations:

- Commit to creating a plan by June 2020 on how to achieve carbon neutrality by 2030 and report back on progress against targets bi-annually (with this report to be publically available)
- Consider a funding pot to enable carbon reduction schemes in Thame (prioritise based on carbon saving/£ spent)
- To influence, facilitate and work with partners, businesses, schools, residents to help deliver widespread, large scale carbon reductions, e.g. an Environmental Award for schools, businesses, local groups eg Street competitions <https://www.frometowncouncil.gov.uk/first-solar-streets-house-in-frome-finished/>
- Initial focus on Renewable Energy (as a simple one-off change with a large immediate impact)
- Include environmental implications as a priority, alongside legal, financial, equality & other implications against TTC's policies, projects and procurement. To include CO2 emissions and all other environmental implications
- Divest of Investments in fossil fuels and other unsustainable products and companies involved in such production and sales
- Push back on any activities seen to be happening at other levels of Government that are not in line with the Climate Act & IPCC recommendations of rapidly reducing Carbon emissions.
- Call on / continue to call on SODC, Westminster to provide the necessary powers and resources to make action at a local level easier, but not to delay action in lieu of this
- Join the Covenant of Mayors to track progress and link with other towns in this free network <https://www.covenantofmayors.eu/>

• Climate Change – the key facts

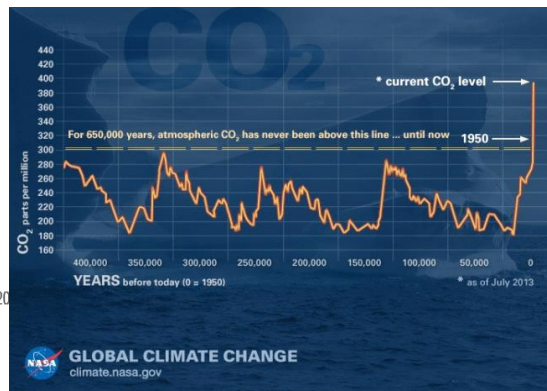
Charts courtesy of NASA,

Temp as at 2017 (latest available)



Source: climate.nasa.gov

CO2 level March 2019 410 PPM (trend chart 2013)



Climate Science

Climate change (previously termed 'global warming') is a large-scale, long-term shift in the planet's weather patterns and average temperatures.

Temperatures (*met office*)

- Global temperatures have already risen by 1°C
- 16 of the 17 warmest years on record have occurred since the year 2001

CO2 (*met office*)

- CO2 in the Earth's atmosphere reflects heat from the sun's rays and traps them in the Earth's atmosphere, creating a warming effect
- Since the Industrial Revolution, atmospheric CO₂ has increased by over 40% to levels that are unprecedented in at least 800,000 years. This has caused warming throughout the climate system
- In 2013 we surpassed 400ppm for the first time in recorded history (NASA) compared to pre-industrial levels of 280 ppm.
- As at March 2019 we are at 410 ppm

Retreating Glaciers & Sea Ice (*met office*)

- The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen. Glaciers all over the world - in the Alps, Rockies, Andes, Himalayas, Africa, Alaska and more recently Patagonia <https://www.atlasobscura.com/articles/world-heritage-glaciers-melting> - are melting and the rate of shrinkage has increased in recent decades.
- Arctic sea-ice has been declining since the late 1970s, reducing in extent by about 4%, or 0.6 million square kilometres per decade

Ice Sheets (*met office*)

- The Greenland and Antarctic ice sheets, which between them store the majority of the world's fresh water, are both shrinking at an accelerating rate

Climate Cascade: Feedback Loops (read 'vicious circle' loops)

Processes by which warming temperatures release new sources of greenhouse gases, or destroy the Earth's ability to absorb carbon, or reflect heat. Below are some examples; however this is not an exhaustive list.

- Melting ice further exacerbates warming as whilst the ice would help to reflect the sun's rays, the darker water absorbs more heat
- Permafrost stores methane (a highly potent greenhouse gas) in addition to CO₂ which, on melting, will be released back into the atmosphere

- Increases of 1-2 degrees in ocean temperature leads to coral bleaching and subsequent death of coral reefs. This results in the loss of another carbon sink (and significant habitat)
- Hotter climate resulting in an increased risk of forest fires – releases stored carbon (held in the trees) as well as eliminating vital carbon sinks

New feedback loops are still being discovered.

- Increased rainfall (a symptom of climate change in some regions) is making it harder for forest floors to trap greenhouse gases, such as methane (PNAS study, Aug 2018)

Ecological Impact

- Humanity, just 0.01% of all life, yet we have wiped out 60% of mammals, birds, fish and reptiles since 1970 (the living planet index, Zoological Society of London study) and it is still increasing. If that were the human population it would be the equivalent of emptying North America, South America, Africa, Europe, China & Oceania.
- Other studies suggest this figure is even higher, and potentially over 80%.
- Wildlife and its ecosystems are our life support system (not a 'nice to have') and a threat to it is a threat to human existence. Much of this destruction is for farmland and due to farming methods including heavy use of chemicals. Huge changes to this industry including current methods and waste along with eating habits (e.g. less meat) is an essential part of reversing losses.
- Also crucial will be large scale reforestation, with the UK having 1/3 of the woodland cover compared to the average for the rest of Europe.
- Doubling tree cover could help absorb c10% of the UK's Carbon emissions annually (Friends of the Earth)
- As temperature increases water loses its ability to hold onto oxygen, making it harder for fish to survive

Key facts from the IPCC as summarised by Friends of the Earth

'There is over 95% certainty that human influence is the dominant factor in warming since the mid-20th century.

To put this into perspective, scientists are as certain that humans are warming the planet as they are that smoking causes cancer.

There isn't a safe temperature rise. Each degree of warming will bring more extreme weather.

Climate change impacts are happening now and are increasing in severity and likelihood – from floods & droughts in Asia & Europe to droughts & hurricanes in the USA.

Climate change is already displacing millions of the world's poorest people and affecting people here in the UK too, where flooding is likely worsen.'

In the UK the cost implications of more frequent and wider spread flooding are huge (estimated as increasing from £1billion to £15-£20billion by 2080's). The socially disadvantaged will be harder hit, less able to afford the increasing cost of insurance or pay for expensive repairs. The ill and disabled will be more vulnerable to the immediate hazard of a flood & to health risks from polluted waters. There would also be mental health consequences from repeated flooding because besides the stress of extensive damage, the threat of repeated flooding, coupled with the possible withdrawal of insurance cover can make properties unsalable, further adding to the problems. (*Governments foresight programme 2004 & Environment Agency Adapting for tomorrow, 2009*)

• Appendix, References, Useful Links & Documents

- Intergovernmental Panel on Climate Change (IPCC) Report <https://www.ipcc.ch/sr15/> &
- IPCC April 2019 <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>
- Committee on Climate change (CCC) (governments official advisors) Article May 2019 <https://www.theccc.org.uk/2019/05/02/phase-out-greenhouse-gas-emissions-by-2050-to-end-uk-contribution-to-global-warming/>
- IPBES Report summary of the Global assessment on biodiversity & Ecosystems https://www.ipbes.net/sites/default/files/downloads/spm_unedited_advance_for_posting_html.pdf
- Covenant of Mayors <https://www.covenantofmayors.eu/>
- **59 Councils declared as at 9/5/2019** <https://climateemergency.uk/blog/list-of-councils/>
- Detailed online carbon calculator <https://www.resurgence.org/resources/quickcalc.html>
- Zero Carbon tool produced by Climate Works Ltd, funded by Frome Town Council



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- Ideas in support of taking Thame to net zero carbon (see separate document)