

## Appendix 1 to Agenda item 5, FTC Council meeting 18 March 2020

### Frome Town Council Climate Emergency Strategy

February 2020

#### Introduction

In December 2018 Frome Town Council unanimously declared a climate emergency and committed to becoming a net zero carbon town by 2030. This report sets out the vision, context and key activities needed to meet this ambitious target and highlights the wider community benefits that will be gained by taking action. The intention is that there will be strong integration with other activities of the Council and its partners to ensure that there are positive social and economic impacts as well as environmental gains. It is anticipated that the action plan and report will be updated annually. A working group will review progress quarterly.

#### Frome in 2030

Our vision for 2030 is of a resilient, healthy, connected community. A network of safe, accessible walking and cycling routes mean that active travel is the norm for the majority of local trips. This has had a huge impact on health and wellbeing. Air pollution has been slashed, reducing health impacts such as asthma and lung cancer. Active lifestyles have helped to reduce the risk of major illnesses, such as heart disease, stroke, type 2 diabetes and cancer by up to 50%, lowering risk of early death by up to 30%<sup>1</sup>. Electric vehicles, bikes and rickshaws are used for longer journeys and deliveries and affordable shared transportation has meant traffic and congestion have significantly reduced, making streets safer and easier for communities to connect. Along with health benefits commuters switching from car to bike are saving around £3000 a year<sup>2</sup>. The need to travel has also reduced through local employment, home working, teleconferencing, local facilities, services and sourcing and 'staycations'<sup>3</sup>.

Frome has become a sharing town. Neighbourhood sharing hubs mean that instead of buying a drill, used on average for only thirteen minutes in its lifetime, communities share resources as and when they need them. This has slashed emissions, reduced waste and inequality and created new neighbourhood connections.

Most people grow food in community growing areas in schools, gardens and allotments. This has increased the amount of plant protein people are eating, significantly reducing emissions<sup>4</sup> and boosting health<sup>5</sup>. Food waste has also been almost eliminated. Local, more sustainable sourcing has reduced the amount of food wasted by farming and retail, and food waste at home has reduced through increased awareness and food planning. This has saved residents at least £600-£800 a year.

Energy bills have also reduced and fuel poverty has been eliminated. Homes and buildings are significantly cheaper to power and heat as they are well insulated. Homes and businesses use LED lighting and efficient appliances which are designed to last and be repaired. Homes and businesses are connected to affordable renewable heat and new district heating networks have been developed. Most buildings have solar panels on them providing free or significantly discounted electricity. Eight, mainly community owned, wind turbines ensure that the town is zero carbon for energy generation, and provide funding back to the town for further carbon reduction and community projects.

People have a stronger connection with nature and regularly spend time in local green spaces, meadows and woodlands. Thousands of trees have been planted and biodiversity is thriving due to well connected woodlands, fields and local, low impact food production. This has also helped to boost wellbeing.

#### Context

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<sup>1</sup> <https://www.nhs.uk/live-well/exercise/exercise-health-benefits/>

<sup>2</sup> <https://www.cyclescheme.co.uk/community/featured/how-much-money-does-cycling-save-you>

<sup>3</sup> <https://en.wikipedia.org/wiki/Staycation>

<sup>4</sup> <https://www.drawdown.org/solutions/food/plant-rich-diet>

<sup>5</sup> <https://www.nhs.uk/live-well/eat-well/why-5-a-day/>

The International Panel on Climate Change published a Special Report on Global Warming at the end of 2018<sup>6</sup>. The report describes the enormous harm that a 2°C rise in global temperatures is likely to cause. Global temperatures have already increased by 1 degree Celsius from pre-industrial levels. However, the report told us that limiting Global Warming to 1.5°C may still be possible with swift ambitious action from national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities. It is therefore imperative that as a species we reduce our CO<sub>2</sub>eq (carbon equivalent) emissions from their current 6.5 tonnes per person per year to less than 2 tonnes as soon as possible.<sup>7</sup>

Individuals cannot be expected to make this reduction on their own. Society needs to change its laws, taxation, infrastructure etc., to make low carbon living easier and the new norm. To achieve these ambitious but vital targets will require huge changes, it will need lots of investment and support from national government. However, it is achievable if we act quickly, and will not only reduce climate risk but has many important co-benefits. These include increased energy security, improved air quality and fuel poverty reduction. Bold climate action can also deliver economic benefits in terms of new jobs, economic savings and market opportunities. For example:

- Insulating houses: heating demands and costs can be reduced by 40% through increasing energy efficiency in homes, providing jobs and training opportunities in the local economy and eliminating fuel poverty
- Getting active and going electric: shifting from diesel and petrol vehicles to more active forms of travel like walking and cycling, and electric vehicles reduces air pollution and the energy needed for transport.
- For Frome to become zero carbon in electricity we would only need around 8 wind turbines and two to three solar farms. If these are community owned they will help ensure price stability and will re-circulate all profits back to the local community via a community fund.

Frome Town Council believes that all governments - national, regional and local, have a duty to limit the negative impacts of Climate Breakdown. It is important for the residents of Frome and the UK that towns commit and take action towards achieving carbon neutrality as quickly as possible. The consequences of global temperature rising above 1.5°C are so severe that preventing this from happening must be humanity's number one priority.

As part of the climate emergency declaration, Frome Town Council committed to:

- Enable Frome to become carbon neutral by 2030, taking into account both production and consumption emissions (scope 1, 2 and 3).<sup>8</sup> This means getting carbon emissions as low as possible. However, zero won't be possible as everything, even the manufacture of a bicycle, has an inherent impact. The remaining carbon will be 'offset' through increasing carbon sequestration locally, nationally and globally.
- Call on Westminster to provide the powers and resources to make the 2030 target possible;
- Work with other authorities, both within the UK and internationally, to determine and implement best practice methods to limit Global Warming to less than 1.5°C;
- Continue to work with partners across the region to deliver this new goal through all relevant strategies and plans
- Report to Full Council with updates on the actions the Council is taking to address this emergency every six months.
- Work with Frome Renewable Energy Co-op and other renewable energy organisations to maximise uptake in the town

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<sup>6</sup> World Resources Institute: <https://www.wri.org/blog/2018/10/8-things-you-need-know-about-ipcc-15-c-report>

<sup>7</sup> Fossil CO<sub>2</sub> & GHG emissions of all world countries, 2017: <http://edgar.jrc.ec.europa.eu/overview.php?v=CO2andGHG1970-2016&dst=GHGpc>

<sup>8</sup> Scope 1, 2 and 3 of the Greenhouse Gas Protocol explained: <https://www.carbontrust.com/resources/faqs/services/scope-3-indirect-carbon-emissions>

- Work with Mendip's planning team to maximise energy efficiency and renewable generation in new developments such as Saxonvale
- Work with land agents to identify opportunities for wind turbines and solar
- Promote insulation offers
- Promote and provide charge points for electric vehicles via Zero Carbon World
- Work with schools, businesses and other organisations to reduce their energy costs and carbon emissions
- Sign up to the global Covenant of Mayors<sup>9</sup>, linking with towns and cities around the world to share ideas, lessons learnt and funding opportunities on how we can quickly and effectively reduce carbon. Frome Town Council signed up in 2019.

## Stakeholders

It is clear that Frome Town Council will not be able to achieve these targets alone. Significant support is needed from Mendip District Council, Somerset County Council, National Government, the community and local businesses and organisations. The changes needed will require a rapid and radical shift away from current practices. As well as national, regional, district and town-wide actions, it is also important that government at all levels significantly cuts the climate impact of their own activities and assets.

- National government need to provide leadership in terms of legislation, funding, regulation, infrastructure
- Somerset County Council are responsible for highways, traffic management, bus subsidies street lighting, schools, the county's pension fund, public health, social services, trading standards and waste disposal. They will need to focus on safe walking and cycling routes, energy efficiency and renewables in schools, support for smarter shared transport solutions and divestment from fossil fuels.
- Mendip District Council are the local planning authority and are the enforcement for Building Regulations which affects existing buildings. They also manage business rates, car parks and some local housing stock and green spaces. They also manage domestic waste and recycling collections as part of Somerset Waste Partnership. Ensuring that planning stipulates zero carbon buildings and well-connected multi-functional green infrastructure, and the local plan embeds climate emergency into all strategies and policies is vital. Mendip are also the enforcement body for Energy Performance Certificates (domestic and non-domestic) and for Minimum Energy Efficiency Standards in the rented sector (domestic and non-domestic). These are the routes by which National Fuel Poverty policy around improving properties to Band C will be measured.
- Frome Town Council is legally responsible only for allotments and parks. However, it can play a significant role through supporting innovative projects and lobbying for the changes needed, working with the local community and business and in ensuring the council's own activities and assets are carbon neutral.
- Enterprise: addressing the climate crisis presents a huge opportunity to enable businesses to develop and deliver green solutions and to work together to minimise their climate and environmental impact.
- Community: while massive systemic, infrastructure and policy changes are needed, these will not be effective without the support from the community. Working collaboratively with the community is vital to ensure that the changes needed are embraced and adopted.

## The story so far...

Frome Town Council was one of the first in the country to declare a climate emergency, at least 50% of local authorities had also declared climate emergencies by the end of 2019<sup>10</sup>. In 2014 the council created a new 'resilience' role to lead on activities that reduce emissions and waste. Since then the council has explored what

<sup>9</sup> <https://www.globalcovenantofmayors.org/>

<sup>10</sup> <https://www.climateemergency.uk/blog/half-of-uk-local-authorities-declare-a-climate-emergency-in-just-eight-months/>

it means to go zero carbon and how this could be achieved in partnership with Climate Works<sup>11</sup>. Examples of recent projects include working in partnership with local organisations such as Edventure Frome CIC and Sustainable Frome CIC to set up the UK's first permanent Library of Things in 2015 and the UK's first Community Fridge in 2016. In 2019 launched 'solar streets', working with a local solar contractor to enable households to receive significant discounts when installing solar panels, 70 households subsequently installed solar in the first four months. It also runs an annual active travel challenge with 2000 students and discounted insulation offers. Work in this area continues and this climate emergency strategy will help to shape the focus of future activities.

## Methodology

To develop this report we held free workshops around energy, transport and resources in November 2019 attended by over 150 people; we held a climate change workshop at Frome College; worked with over 290 school children to develop ideas for a 'clean and healthy future' and incorporated ideas from Frome's youth climate strikers. These ideas are summarised in the Climate Emergency Action Plan that accompanies this document.

Project Drawdown<sup>12</sup> has been used as the basis for climate reduction and strategy. Project Drawdown is a world-class research organization that reviews, analyses, and identifies the most viable global climate solutions, and shares these findings with the world. Project Drawdown has identified the top one hundred actions<sup>13</sup> needed to meet our climate targets using peer reviewed scientific data from thousands of studies. This has been used to prioritise actions in this strategy. The top ten global solutions according to Project Drawdown are as follows:

Rank	Solution	Sector	TOTAL ATMOSPHERIC CO <sub>2</sub> -EQ REDUCTION (GT)	NET COST (BILLIONS US \$)	SAVINGS (BILLIONS US \$)
1	Refrigerant Management	Materials	89.74	N/A	\$-902.77
2	Wind Turbines (Onshore)	Electricity Generation	84.60	\$1,225.37	\$7,425.00
3	Reduced Food Waste	Food	70.53	N/A	N/A
4	Plant-Rich Diet	Food	66.11	N/A	N/A
5	Tropical Forests	Land Use	61.23	N/A	N/A
6	Educating Girls	Women and Girls	51.48	N/A	N/A
7	Family Planning	Women and Girls	51.48	N/A	N/A
8	Solar Farms	Electricity Generation	36.90	\$-80.60	\$5,023.84
9	Silvopasture	Food	31.19	\$41.59	\$699.37
10	Rooftop Solar	Electricity Generation	24.60	\$453.14	\$3,457.63

## Current baseline

Having a baseline against which we can track progress is vital. However, measuring all impacts of a town or community is complex and often excludes important emissions such as those from aviation and consumer goods.

In 2019 Mendip District Council declared a climate emergency and recruited a Climate and Resilience officer. They are using SCATTER, a local authority focussed emissions tool, built to help create low carbon local authorities and to measure and track their impact. SCATTER provides a standardised model for local authorities to measure and report their greenhouse gas impacts, aligning with international frameworks such as the Paris Climate Agreement. SCATTER can be used to develop a credible decarbonisation pathway. Outputs can then be used for engagement to create a collaborative carbon reduction approach.

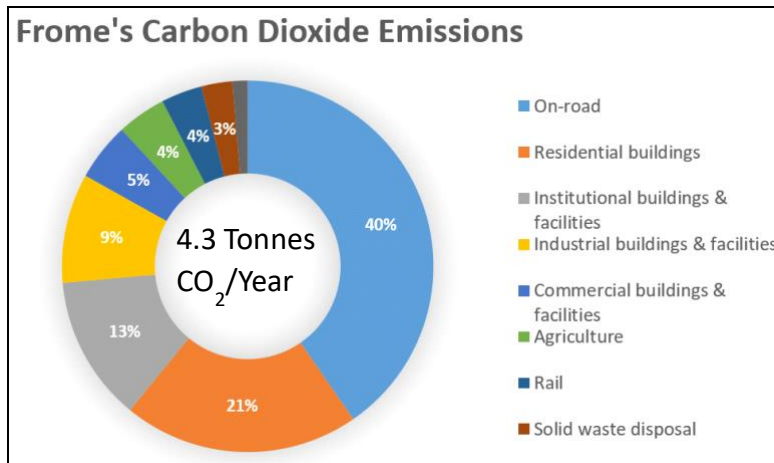
Whilst this is a robust way to measure impacts, the data focuses on district, not town level greenhouse gasses. It also excludes key impacts such as consumer goods and aviation which was also excluded from the Paris Climate Agreement.

<sup>11</sup> <https://www.frometowncouncil.gov.uk/your-community/resilience/clean-future/>

<sup>12</sup> <https://www.drawdown.org/about>

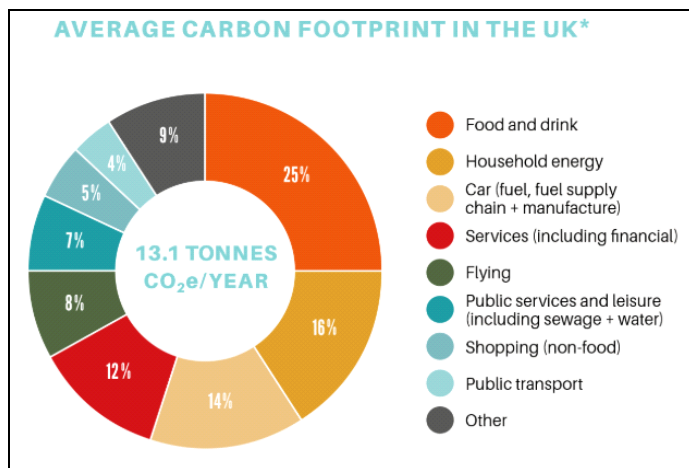
<sup>13</sup> <https://www.drawdown.org/solutions-summary-by-rank>

If we assume Frome accounts for 24% of Mendip’s population, extrapolating from Mendip’s SCATTER data, per person impacts are as follows:



Source: SCATTER based on emission data from 2017

This suggests carbon dioxide emissions per person are 4.3 tonnes per year. However, if the total impact of consumption and transport are included the full impact per person looks more like 13 tonnes per year. This is a significant difference. However, if the council wants to address its full impacts, without outsourcing the carbon impacts of the goods it buys from countries like China, it is vital that we address our full footprint as a community.

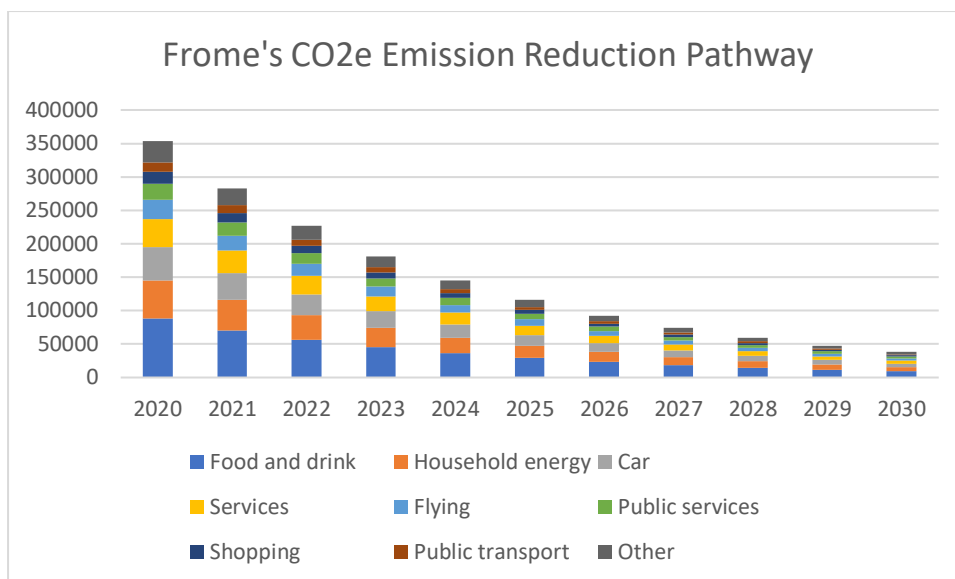


Area	Kg CO2e
Food and drink	3275
Household energy	2096
Car	1834
Services	1572
Flying	1048
Public services	917
Shopping	655
Public transport	524
Other	1179
<b>Total</b>	<b>13,100</b>

Source: Mike Berners Lee – Small World Consulting<sup>14</sup>

The graph below uses this analysis as a basis to model the emissions reduction pathway needed. This assumes a 20% year on year reduction. Whilst ‘zero’ carbon is not achieved by 2030 it is assumed that the small remaining impact can be sequestered locally or offset.

<sup>14</sup> <https://newint.org/features/2019/07/01/can-i-do-stop-climate-change>



It is important to note that this analysis is based on average data from the UK and does not include town or regional variations. More detailed Frome specific data is needed and will be developed over the next year.

Using the average impact as a baseline, this report will focus on three key areas: resources (including food, drink, services and shopping), transport (car, flying and public transport) and energy (household energy and also organisational energy which is included in public services such as schools, and 'shopping' which includes the impact of producing goods and services).

## Energy

Household energy accounts for 16% of the average UK footprint. Climate Work's Fossil Free Frome report explored how a 40% cut in baseline energy demand could be achieved. This means that every home in Frome needs to be made as energy efficient as technical measures allow. In addition to 'standard' measures such as loft and cavity wall insulation and draught-proofing, homes with solid walls will need to be insulated with external or internal wall insulation. This will need to be carefully planned to ensure it is suitable for each building type. Cost is an important factor and support from national government or other funding mechanisms will be needed. There is also an opportunity for customers who are able to pay and who want to proactively save carbon to lead the way with support, advice and encouragement. This will help develop the local supply chain and expertise as well as help to normalise the measures.

A study by the Centre for Sustainable Energy<sup>15</sup> estimated that 35% of homes in Mendip have solid walls. If the distribution of property types is similar in Frome, just under 4000 homes will require solid wall insulation. However, Frome has 340 listed buildings some of which might not be permitted to have solid wall insulation<sup>16</sup>.

The Energy Saving Trust estimate external wall insulation to cost between £8,000 to £22,000, and internal wall insulation between £3,500 to £14,000. They point out that the actual cost depends on the house type, (flat, terraced, semi-detached house etc), and factors such as access, and the detailed design of the property. These costs may come down as the market develops but it will always be a measure that carries a significant cost. Bringing down the cost can also be achieved by encouraging people to do the works in parallel with other refurbishment work. Linking with others such as the National Trust and English Heritage who have been insulating historic properties will also be important to develop appropriate approaches for each housing type.

Encouraging residents to wear warm clothes and turn down their thermostat from 19 to 18 degrees could also have a big impact and will reduce the average household energy bill by 13%<sup>17</sup>. Improving the energy efficiency of existing homes in Frome remains one of if not the major challenge to Frome becoming 'fossil free'.

<sup>15</sup> <https://www.cse.org.uk/>

<sup>16</sup> <https://britishlistedbuildings.co.uk/england/frome-mendip-somerset#.XlkqtKj7Qnl>

<sup>17</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/128720/6923-how-much-energy-could-be-saved-by-making-small-cha.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/128720/6923-how-much-energy-could-be-saved-by-making-small-cha.pdf)

Having an affordable, warm, healthy home is also vital for wellbeing. The health impacts of living in a cold or damp home have been well documented by Public Health England and can cause high blood pressure and even heart attacks and pneumonia<sup>18</sup>. They can also lead to social isolation, loss of sleep, stress and mental illness. Government data shows that over 10% of Frome households were living in fuel poverty in 2017<sup>19</sup>, this is likely to have increased as energy prices increased 40% between 2015 and 2020. A breakdown of fuel poverty by area shows very localised patterns.

Area of Frome	Estimated number of households	Estimated number of fuel poor households	Proportion of households fuel poor (%)
Berkley Down West	762	91	11.9
Berkley Down North	849	41	4.8
Berkley Down East	730	52	7.1
Fromefield East	540	48	8.9
Fromefield West	680	43	6.3
Fromefield South	633	51	8.1
Keyford East	664	66	9.9
Keyford North	766	107	14.0
Keyford West	650	87	13.4
Keyford South	610	67	11.0
Park West	688	66	9.6
Park South	781	56	7.2
Park East	1,015	127	12.5
Welshmill South	727	93	12.8
Welshmill West	682	83	12.2
Welshmill North	613	68	11.1
Welshmill East	710	74	10.4
<b>Total / average</b>	<b>12,100</b>	<b>1,220</b>	<b>10.1</b>

### Existing Buildings

Key actions for Frome Town Council over the next year include:

- **Commission energy efficiency report** for Frome Town Hall and implement findings to ensure the Town Hall minimises its carbon impact and demonstrates what is possible in similar older types of building.
- **Co-develop and promote a retrofit programme** using the housing stock survey and appropriate solutions as a basis working in partnership with Mendip District Council. Exploring opportunities for funding and financing mechanisms (such as Bath and North East Somerset's green deal programme) and working in collaboration with retrofit experts such as EnergieSprong<sup>20</sup> and CSE to identify opportunities will be key. Commissioning a housing stock survey, looking at what retrofit techniques are appropriate in Frome, working with the Centre for Sustainable Energy will be key to this. A lot of work has been done in this area already and linking with other successful guidelines and programme such as English Heritage and Bath and North East Somerset will be important.
- One of the biggest challenges is engaging with people and normalising these measures and this is where Frome Town Council could play a significant role.
- **Train local tradespeople** to be able to retrofit homes effectively, linking with CSE and other expertise.

<sup>18</sup> <https://www.cse.org.uk/advice/advice-and-support/heat-and-health>

<sup>19</sup> <https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-data-2019>

<sup>20</sup> <https://www.energiesprong.uk/>

- **Train local team of energy advisors** to support people to increase the energy efficiency of their homes and reduce their energy bills. This should be done in the context of the new standards being administered by TrustMark (including PAS2035)<sup>21</sup>.
- **Explore behaviour change programmes** such as Totnes Transition Streets – to encourage neighbours to work together to reduce their energy bills and carbon emissions and Green Open Homes which showcases local examples of eco retrofit.
- **Encourage local businesses to have free energy audit** via the Carbon Trust and support them to implement identified actions, such as switching off their lights at night.
- **Lend thermal imaging camera** to enable the community to highlight areas their homes are leaking heat
- **Promote use of LEDs in homes and businesses**
- **Work with schools** via Energy Sparks<sup>22</sup> and Frome Learning Partnership to support them in reducing their energy costs and carbon. Energy Sparks also enables students to help lead on activities and schools to be rewarded for taking action.
- **Explore training apprentices** in energy efficiency and renewables linking in with CSE's Futurefit programme<sup>23</sup>.

Key actions for Mendip District Council include:

- **Retrofitting council housing stock** to high energy efficiency standards.
- **Working with social and private landlords** to ensure homes have high efficiency standards. Enforcement of Minimum Energy Efficiency Standards will drive improvement by landlords of private rented homes (often the coldest / dampest) and of rented business premises.

Actions for national government:

- Make improving the UK's domestic housing stock a **national infrastructure priority**.
- **Fund retrofit** – significant investment is needed to enable the housing stock to reach energy efficiency targets. This could be done through a Green Deal that has low interest rate and maximising ECO funding to enable low income households to access free measures.

## New development

Whilst addressing the impact of existing housing stock and buildings is vital, it is also important to ensure that new developments are built to minimise their impact and enable zero carbon lifestyles.

Key activities for the next year include:

Frome Town Council:

- **Develop best practice design and planning guidance** to incorporate into Frome's updated Neighbourhood plan.
- **Input into Mendip's Local Plan** and planning rules using best practice examples from elsewhere such as Stroud and Milton Keynes.
- **Support the implementation of a zero carbon microgrid and heat network** at the new Saxonvale development, working in partnership with Frome Renewable Energy Co-op. Work with developers and Mendip District Council to incorporate this approach to all new development.

Mendip District Council:

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<sup>21</sup> <https://www.trustmark.org.uk/ourservices/pas-2035/>

<sup>22</sup> <https://energysparks.uk/>

<sup>23</sup> [https://www.cse.org.uk/downloads/reports-and-publications/community-energy/bristol community energy mapping report sept 2011.pdf](https://www.cse.org.uk/downloads/reports-and-publications/community-energy/bristol%20community%20energy%20mapping%20report%20sept%202011.pdf)



- **Incorporate best practice design guidance** into planning rules. Where zero carbon is not being achieved ensure developers pay per tonne of carbon emitted by the development to support and offset carbon reduction locally. This is being done by Milton Keynes, Islington and Camden and explored by Bristol City Council and could generate millions to support other carbon reduction measures.
- **Lobby national government** to enable local authorities to stipulate higher standards in development – looking at all aspects – energy, transport, embodied energy of materials etc.

## Renewable Energy

Fossil Free Frome report found that ‘on paper solar PV would provide just over 60% of the daily per person requirement for power in Frome’ if all south facing roofs had solar panels. However, it is important to consider that the energy actually generated by solar is only produced during daylight hours and reduces in winter months. So whilst roof mounted PV could generate a lot of energy in total, to get the full benefit it is necessary to find some way of storing the electricity generated in the day for use at night, plus other forms of power generation during the winter months when the solar resource is much smaller.

Key activities for the year for Frome Town Council include:

- **Commissioning research exploring wind, hydro and other renewable energy opportunities** in the area, building on work already undertaken in this area over the last five years. This includes working with CSE’s Future Energy Landscape mapping to enable the local community and energy experts to develop a renewable energy map for the area.
- **Promote solar streets** – Frome’s pioneering bulk solar install<sup>24</sup>. Continue to promote locally, linking with affordable finance to enable payments to be spread over time. Add batteries to this in longer term as costs reduce (and VAT less when installed with solar). Replicate in other areas.
- **Promote solar, renewables and storage** to local businesses and organisations
- **Promote collective switch to renewable energy** e.g. via greenswitch.org
- **Explore opportunities for local district heat networks** via Thermos-eu / CSE
- **Work with FRECo to explore community bonds** as a way to finance local renewables and retrofit
- **Explore opportunities for establishing Frome Virtual Power Plant using renewables, storage and Demand Side Response**
- **Explore enabling community owned energy to be sold at a reduced rate to local businesses and schools through a corporate Power Purchase Agreement (PPA) structure**
- **Link with local farmers to explore opportunities for Anaerobic Digestion (AD)** using local food and agricultural waste to produce renewable electricity or gas

Actions for Mendip District Council and Somerset County Council:

- Link with local community energy organisations to **install renewables on Mendip / Somerset owned buildings and land**
- **Explore renewable energy opportunities** across the area
- **Use the Mendip’s Phoenix Fund** to invest in clean energy generation and generate a return
- Ensure renewable heat including **ground source and air source heat pumps** powered by renewables are a planning condition for all new developments

Actions for national government:

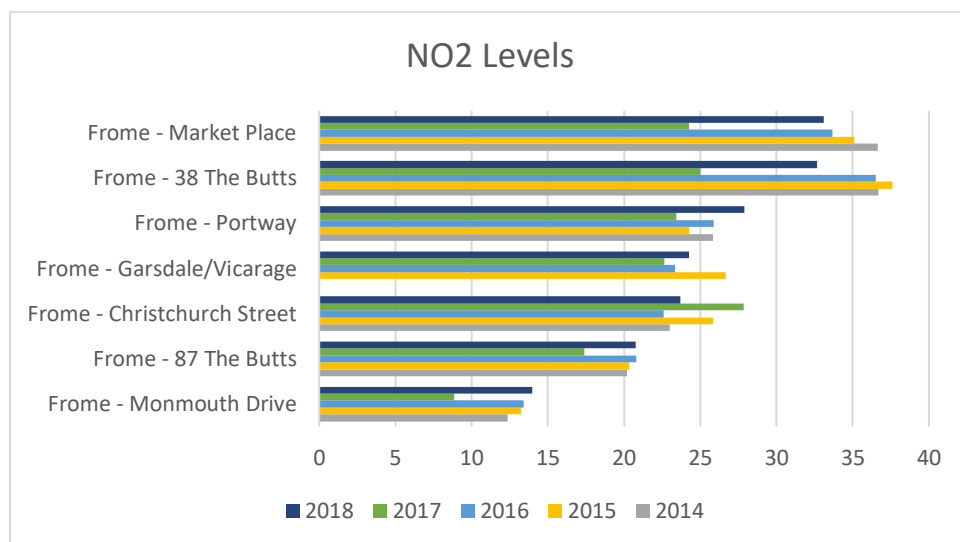
- Enable onshore wind through planning regulation that supports wind turbines in appropriate, well planned areas, providing incentives for community energy where the local community directly benefits.
- Support renewables, for example, stipulating a higher level of Smart Export Guarantee. Enable community energy organisations to easily implement smart solutions such as sleeved power purchase agreements and virtual MPANs<sup>25</sup>.

<sup>24</sup> <https://www.frometowncouncil.gov.uk/solar-streets/>

<sup>25</sup> [https://www.spenergynetworks.co.uk/userfiles/file/ARC\\_Learning\\_Report\\_Potential\\_Commercial\\_Arrangements\\_for\\_Virtual\\_Private\\_WireSystems\\_Feb\\_2017.pdf](https://www.spenergynetworks.co.uk/userfiles/file/ARC_Learning_Report_Potential_Commercial_Arrangements_for_Virtual_Private_WireSystems_Feb_2017.pdf)

## Transport

Transport has a huge climate and health impact. In Frome there are air quality issues in several areas which have a big impact on health and wellbeing. The graph below shows the Nitrogen Dioxide levels in Frome wards. The annual mean limit is set nationally at  $40\mu\text{g}/\text{m}^3$ . As can be seen, while emissions have reduced in some areas between 2014 and 2018, areas such as Market Place and The Butts are close to this maximum level. Frome Town Council is working with Frome Tech Shed to hold workshops for local residents to make their own air monitors which will then provide real time information on local pollution levels.



Source: Mendip District Council

Changing these transport patterns will require a huge shift and reaching the climate targets will require significant investment in new infrastructure such as safe walking and cycling routes and smarter shared mobility. Ensuring Frome has local work, leisure and education facilities that are accessible by walking and cycling is also vital. Key stakeholders include national government and Somerset County Council who are responsible for highways and transport planning. There are also actions that can be taken on the local level, from promoting lift share to helping to set up a network of electric charge points for cars and bikes.

Frome's Neighbourhood Plan sees transport as a key issue and delivering 'integrated sustainable transport options is a key aim of the Frome Neighbourhood Development Plan.' There is limited data around current travel patterns for the area. However, at a national level the distance travelled by car increasing by 75% between 1980 and 2004; 38% of car trips are under 2 miles and walking levels are amongst the lowest in Europe, accounting for only 16% of urban trips in England and Wales compared to 46% in the Netherlands<sup>26</sup>.

For short journeys encouraging people to cycle, walk or use electric bikes/scooters instead of driving produces a huge boost in efficiency and wellbeing. A bike is 80 to 100 times more energy efficient than a car per passenger km.

For longer journeys there is a similar lift in efficiency from switching from cars to public transport. Bus services in Frome, as elsewhere, have been withdrawn or under threat over the past few years. Cuts to government funding, privatisation which encourages bus operators to compete rather than co-operate, increasing bus fares and low density of population have all contributed towards this. However, buses add significant value to the local economy. A study by KPMG found that the economic, social and environmental return for each £1 spent on bus services range from £2.00 to £3.80 for revenue expenditure and £4.20 and £8.10 for capital expenditure.<sup>27</sup> Bristol is now using methane powered 'poo buses' and electric buses in other cities are helping to reduce the impact of bus services.

<sup>26</sup> [https://www.southsomerset.gov.uk/media/351908/yeovil\\_sustainable\\_transport\\_sudy\\_report\\_26aprilreduced.pdf](https://www.southsomerset.gov.uk/media/351908/yeovil_sustainable_transport_sudy_report_26aprilreduced.pdf)

<sup>27</sup> <http://www.greenerjourneys.com/wp-content/uploads/2017/07/Greener-Journeys-Value-for-Money-Update-FINAL.pdf>

Train services in Frome are also limited, for example, with two hour gaps at key times such as 8-10am and 3-5pm. This is a huge barrier to increased public transport use. Lobbying for better services is key to increasing usage.

Where public transport isn't possible, the easiest way of improving the 'per person' energy efficiency of vehicle transport is to fill the vehicle. Reducing the number of vehicles on the road brings the added benefits of reducing congestion as well as local air pollution.

Electric cars are potentially part of this solution as they are about five times more energy efficient than the average fossil fuel (petrol/diesel) car. The estimated average energy use for transportation in Frome is 20kWh per day per person. Switching to electric vehicles could reduce this figure to approximately 4kWh per day per person<sup>28</sup>. Electric vehicles (EVs) eliminate exhaust pipe emissions, significantly improving local air pollution. EVs can also provide electrical energy storage via the car's batteries, helping to smooth out peaks and troughs in energy demand and maximise the energy generated from renewable sources. A further benefit is noise reduction as electric vehicles are much quieter than their petrol and diesel equivalents.

However, most transport solutions, other than walking, still have inherent environmental impacts. Cobalt and lithium needed for EV batteries are limited resources. As Martin Breukner concludes 'electric cars are a quick-to-deploy technology fix that helps tackle climate change and improve urban air quality – to a point. But the sustainability endgame is to eliminate many of our daily travel needs altogether through smart design, while improving the parts of our lives we lost sight of during our decades-long dependence on cars.'<sup>29</sup>

Aviation is a key part of this and has a huge impact that is often excluded from carbon calculations. Significantly reducing travel needs and encouraging people to travel over land will be vital. Promoting local leisure opportunities, lobbying against airport expansion, such as the successful campaign to stop Bristol Airport's expansion and promoting campaigns such as <https://flightfree.co.uk/> will be key to this.

Key actions needed over the next year for Frome Town Council include:

- **Mapping transport needs** and services in partnership with Mendip and Somerset councils and other local parish councils
- **Map safe walking and cycling routes** and key areas that need addressing through a Local Walking and Infrastructure Plan. Use this body of evidence to secure funding to ensure there is a comprehensive safe accessible network throughout the town.
- **Buy an electric bike for staff to use.** We already use an electric vehicle for the park ranger team and use Co-Wheels hybrid vehicle for all business journeys. FTC should also promote the Bike to Work scheme to all employees.
- **Promote Liftshare** Frome and support volunteer drivers to enable liftsharing
- **Promote home delivery** especially from independent local shops and **explore opportunities for neighbourhood delivery hubs**
- **Promote local shops** and facilities where people can walk to buy things
- **Promote Co-Wheels** hybrid car club<sup>30</sup>, which saves at least 20 privately owned vehicles through affordable car hire
- **Bike amnesty:** link with Critchill School's bike workshop to enable people to share and repair bikes and gain skills in a similar way to Bristol Bike Project<sup>31</sup>
- **Promote and organise more active travel challenges** with local schools – this currently happens every May, enabling 2000 students to increase active travel by 20%<sup>32</sup>. We will focus on maintaining this impact, help set up walking buses and link with local businesses.
- **Develop and promote walking and cycling maps**
- **Work with businesses to encourage home working and teleconferencing**
- **Support Frome's Missing Links** to enable a safe off road cycle path linking Frome with Radstock and Bath

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<sup>28</sup> <https://www.frometowncouncil.gov.uk/wp-content/uploads/2016/07/A-clean-healthy-future-for-Frome-Final-Sept-2016.pdf>

<sup>29</sup> <https://theconversation.com/not-so-fast-why-the-electric-vehicle-revolution-will-bring-problems-of-its-own-94980>

<sup>30</sup> <https://www.co-wheels.org.uk>

<sup>31</sup> <https://thebristolbikeproject.org/>

<sup>32</sup> <https://www.youtube.com/watch?v=zm9MMty2r6k>

- Work with Somerset County Council, train and bus companies, community transport, volunteer drivers and others to increase shared transport that meets local needs
- Explore creative ways to engage the community around travel include local school children designing 'parking tickets' for cars parked outside the school and mime artists / street theatre that encourages people to car share and drive safely.
- Lobby national government to ensure pedestrians and cyclists have priority as they do in Holland. This significantly helps to reduce accidents and insurance costs.
- Remodel town centre to prioritise pedestrians over cars, exploring options to increase pedestrianisation in the longer term. Ensure 20mph is enforced.
- Liaise with Frome Sustrans volunteers who maintain National Cycle Network route 24 around the area.

#### Mendip

- Encouraging businesses to locate where people live via Local Plan
- Ensure all new developments to have walking and cycling links and secure cycle storage
- Provide network of electric charge points for EVs
  - Ensure new developments are designed using the Home Zone concept<sup>33</sup>, reducing parking needs, keeping cars at the periphery and enabling communities to connect and share car club vehicles

#### Somerset

- Support network of safe cycling and walking routes
- Ensure new developments have green transport plan that prioritises people and bikes over cars, ensuring that this is fully implemented
- Require all taxis to be electric through licensing

#### National government

- Invest in safe walking and cycling routes, hugely boosting cost benefit ratio of transport investment
- Work with rail and bus operators to ensure public transport is well planned, affordable, meets local demands and is integrated to enable trains to link with bus services and bikes to be transported where needed.

## Resources

In this report 'resources' include the impact of the goods and services we buy as well as natural resources such as tree planting and nature. It also covers food and drink which account for 25% of the average UK footprint. In total 'resources' account for 42% of our footprint, or 49% if we include public services and leisure. By 2030 we need to see a big shift towards sharing and borrowing rather than buying, particularly for high impact products such as electronic items.

### Products and Services

The UK is already using three times as many resources as the earth can sustain. Buying less, borrowing, sharing and buying things that last and can be repaired are all key to reducing emissions and conserving resources.

To In 2015 Frome Town Council worked in partnership with Edventure Frome CIC to set up SHARE, the UK's first permanent Library of Things. SHARE has over 600 items for the community to borrow for a small donation. A recent impact report found that in 2018/19 SHARE: saved the community over £62,000 through borrowing rather than buying, reduced waste and resource use by over 127 tonnes and reduced greenhouse gases by 92 tonnes<sup>34</sup>.

### Waste

In 2016 the council worked in partnership with Edventure Frome CIC to set up the UK's first community fridge. Inspired by the solidarity fridges in Spain, the community fridge has a team of volunteers who collect

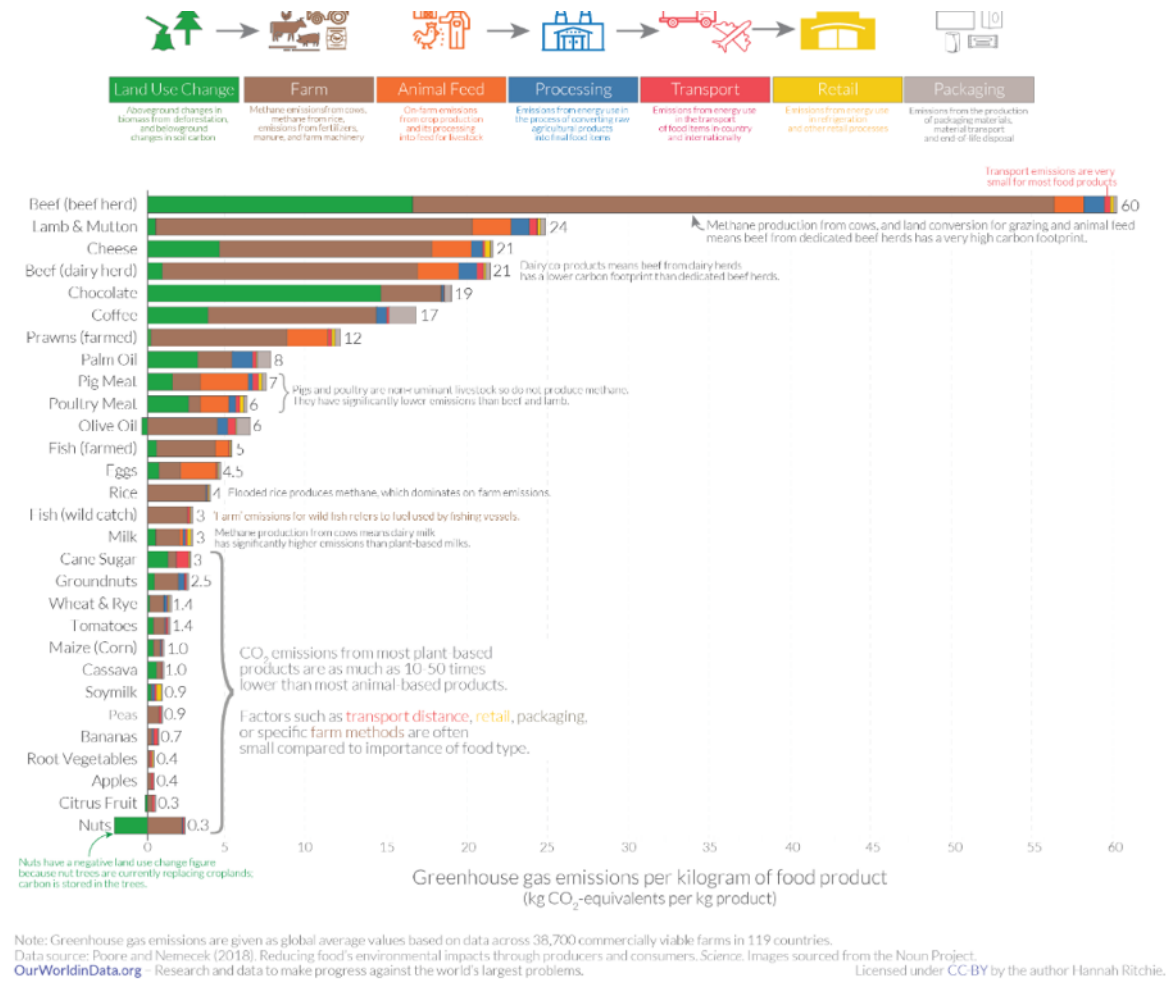
<sup>33</sup> <https://www.sheffield.gov.uk/content/dam/sheffield/docs/planning-and-development/core-strategy/Home%20Zone%20Guidelines.pdf>

<sup>34</sup> <https://edventurefrome.org/enterprises-initiatives/fridge/>

food waste from local supermarkets and shops and put them in the fridge and community larder to enable anyone to help themselves. A recent impact analysis found that the fridge enables over 90,000 items a year to be eaten rather than wasted, saving 130 tonnes of greenhouse gasses every year, the equivalent of driving 5 times round the world.

### Increasing plant-based food

According to Project Drawdown meat and dairy account for one-fifth of global emissions. 'If cattle were their own nation, they would be the world's third-largest emitter of greenhouse gases.' Emissions could be reduced by as much as 70 percent through adopting a vegan diet and 63 percent for a vegetarian diet, which includes cheese, milk, and eggs. \$1 trillion in annual health-care costs and lost productivity would also be saved. This doesn't mean everyone needs to go vegan, but reducing meat and dairy consumption is important and will significantly help towards meeting Frome's climate targets. The graph below shows the relevant impacts per food type<sup>35</sup>.



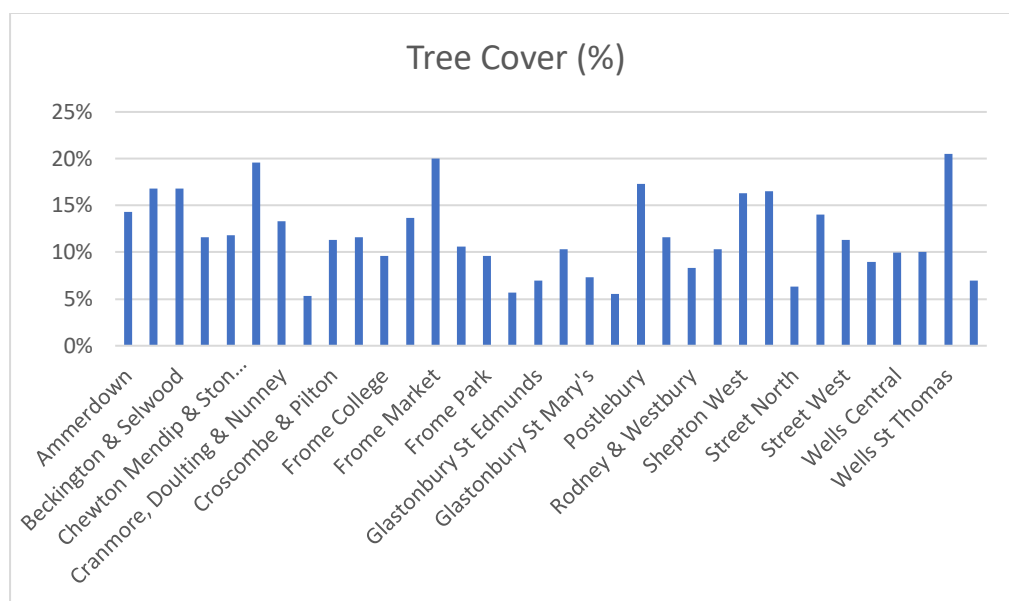
### Trees and carbon sequestration

The way that land is used has a huge impact. Developing a Land Use Framework to optimise land for nature recovery, food growing, carbon storage and to a lesser extent 'development' would help to ensure land use is well planned and maximises climate benefits.

<sup>35</sup> <https://ourworldindata.org/uploads/2020/02/Environmental-impact-of-food-by-life-cycle-stage.png>

Much of the carbon captured by trees (and plants) is stored in the soil. Whether on a development site, on a farm or in a garden, it is important that soil is managed in a way that safeguards its ecological and carbon value.

Tree planting is often seen as an ‘easy’ way to sequester carbon emissions. However, ensuring that tree planting (or natural regeneration) is well planned using appropriate species, doesn’t compete with other land uses such as sustainable local food production, and is well supported and maintained is vital. In England tree cover is only 10%, whereas the European average is 30%. In Frome tree cover is estimated at 13.5%<sup>36</sup>. Somerset Climate Action Network calculated that to meet Frome’s current climate emissions we would need to plant 38 million trees! It is therefore clear that whilst tree planting is important – for sequestration, flood management, wellbeing and natural habitats, it is only a small part of the solution and huge cuts will still be needed in current emissions.



For resources Frome Town Council’s key activities over the next year include:

- Promoting Frome as a sharing town linking with SHARE, the Toy Library, setting up local school uniform and book swaps and free-cycle days.
- Working with local businesses to support and enable sustainable methods of production and services.
- Promote ethical banking, pensions, utilities and webhosting.
- Lobbying Somerset County Council’s pension fund to divest from fossil fuels
- Work with local schools to organise uniform and book swaps / sales
- Explore opportunities for setting up sharing hubs in each area
- Promoting refill, re-use and repair
- Promoting Somerset Waste Partnership’s new recycling services in summer 2020
- Work with schools and hospitals to explore sourcing local, seasonal and increased plant protein
- Work with farmers to increase plant protein production locally and encourage sustainable farm management such as tree planting, hedgerows and insect banks<sup>37</sup>
- Promote local food growing and training opportunities
- Develop and implement tree planting programme
- Work with communities and community groups to enhance Frome’s green infrastructure corridors including SOS Open Space / Whatcombe Fields and FROGs

<sup>36</sup> <http://forestry.maps.arcgis.com/apps/webappviewer/index.html?id=d8c253ab17e1412586d9774d1a09fa07>

<sup>37</sup> <https://www.agricology.co.uk/resources/beetles-you-can-bank>

- Link with Friends of the River Frome and Somerset River Frome Catchment Partnership to improve the river Frome water quality and environs.

Exploring creative ways to encourage and enable the community and organisations to share, re-fill, re-use and repair items will be key to maximising participation. Using innovative approaches and successful campaign examples from organisations such as Hubbub<sup>38</sup> will help to significantly increase impact in this area. Somerset Waste Partnership's new recycling services in summer 2020 will also provide an important opportunity to minimise waste going to landfill. Enabling more local food growing and implanting the council's tree planting will help to boost health and wellbeing as well as cutting emissions.

#### Mendip

- Use business rates to incentivise sustainable business practices, goods and services
- Introducing new recycling services to recycle significantly more plastic waste in summer 2020
- Explore opportunities to enable people to live on smallholdings to grow food and live sustainably
- Increase tree cover on Mendip owned land; update local planning strategies to encourage nature based solutions such as increasing tree cover across the council area

#### Somerset

- Divest pension fund, which in 2018 invested £120m in fossil fuels, £70m of which was in fracking.
- Increase tree cover on Somerset owned land and on streets; update local planning strategies to encourage nature-based solutions such as increasing tree cover across the council area
- Engage with schools to ensure meals are delivered in accordance with the official Eatwell Guide and the majority of options on menus are healthy and plant-based, with less and better meat

#### National government:

- Label carbon impact of goods and look at carbon budgeting.

#### Measuring progress

To enable the massive reductions in greenhouse gas emissions needed, it is vital that governments change the way they value 'progress'. The driving force behind our current system is economic growth. Infinite growth on a finite planet cannot be sustained. A global economy growing at 3% a year doubles every 24 years. Gross Domestic Product (GDP) is one of the most widely used indicators of the national economy. However, activities that are detrimental to the long-term economy (like deforestation, strip mining, over-fishing, murders and terrorism) increase today's GDP and environmental degradation is rarely accounted for. For example, the Exxon Valdez oil spill boosted GDP in the US due to the expenditure associated with the clean-up effort, outweighing impact of the eleven million gallons of oil spilled into Alaskan waters.

An increasing number of countries are looking at different metrics, such as Gross National Happiness. This was adopted by Bhutan in 2008 and countries such as New Zealand have introduced 'gross national wellbeing' as their main way to measure progress in the country. As well as changing the way we value 'progress' we need to ensure that the environmental and social impacts of all activities and products are incorporated, reflecting their true cost and ensuring that people involved have fair, safe working conditions.

#### Action

- Work with partners to explore appropriate measurements for Frome. Tools such as the Local Multiplier effect are a step towards this.

#### Community Resilience

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<sup>38</sup> <https://www.hubbub.org.uk/Pages/Category/campaigns>

Working in partnership with local communities to develop and implement solutions is vital. This will be key to reaching the town's climate targets. Ensuring there are strong neighbourhood networks to ensure people are supported in the face of the impacts of climate breakdown is also crucial. These impacts include extreme weather - storms, flooding and overheating in particular and food shortages.

#### **Action**

- Further develop emergency plan including mapping local needs and engage with local community to enhance mutual aid and resilience.
- Link with Mendip and Somerset's emergency plans

#### **Conclusion**

This report sets out some of the key actions that are needed over the next few years to ensure we meet our vital climate change targets, while boosting health, wellbeing and the local economy. Engaging the community and organisations in this transition is fundamental and exploring creative, interesting ways to do this will be key. Achieving the changes needed will require significant investment. A key element of the programme is therefore fundraising, such as Frome Town Council and Edventure's recent application for £2m to the Lottery's Climate Action Fund. Other opportunities include community energy, community shares, bonds and investment from pension funds and others. If we stand any chance of meeting these vital and ambitious targets we need significant support and changes in policy and funding at district, county and national government levels.