

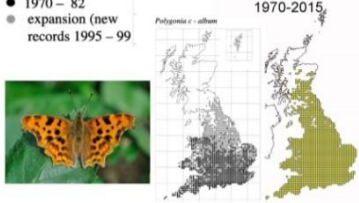




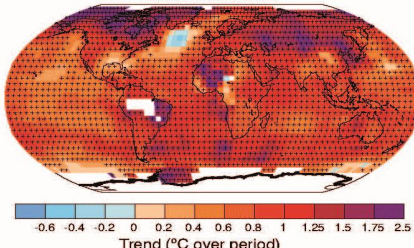

Living well

Living sustainably – living responsibly –

Climate and environment change is happening right now. Here are some changes **round Settle:**

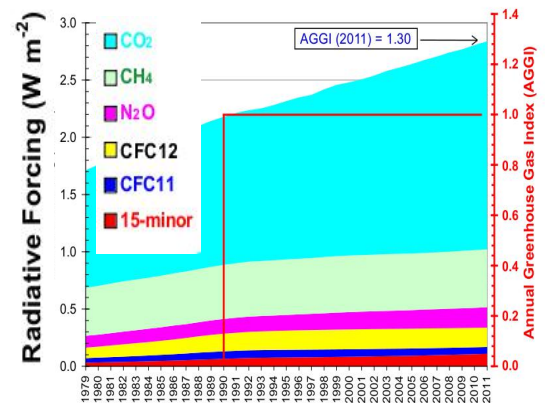
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|  |  | <p>The Comma Butterfly has increased its range northwards</p> <ul style="list-style-type: none"> ● 1970 – 82 ● expansion (new records 1995 – 99) <p>1970-2015</p>  |
| <p>Increased frequency of flooding: The River Ribble at Queen's Rock, Settle</p> | <p>Increased Nitrogen compounds in air (NH_3 and NO_x) leading to increased <i>Klebsormidium crenulatum</i> (a felty green alga on acid rocks and trees)</p> | <p>The Comma Butterfly has increased its range northwards</p> |

And in the world: 2014 had the warmest world temperatures on record (NASA data). Then 2015 did. Then 2016 did!!! 2017? 2017 was the second-hottest year on record. 2018 was the 4th warmest year.





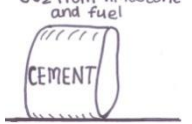
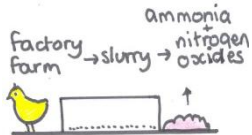


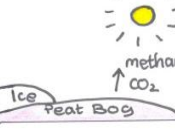
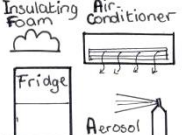
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <p>Now you see it</p>  <p>Pasterze (Austria)</p> <p>Now you don't</p>  <p>1875 and 2004</p> | <p>GISS 1901-2012</p>  <p>Trend (°C over period)</p> |  <p>Soil; Zaatari Camp, Jordan; W. Africa</p> |
| <p>Glaciers melting</p> | <p>Increased temperatures</p> | <p>Increased drought and refugees</p> |

Which gases are making the air warmer?

Human made Greenhouse gases are making the air warmer. Gases include: carbon dioxide, nitrogen oxides, methane, ozone, CFCs. The amount of greenhouse gases produced is called one's carbon footprint (or CO_2e – greenhouse gas equivalent). This graph shows changes in the annual greenhouse gas index (AGGI) between 1979 and 2011.



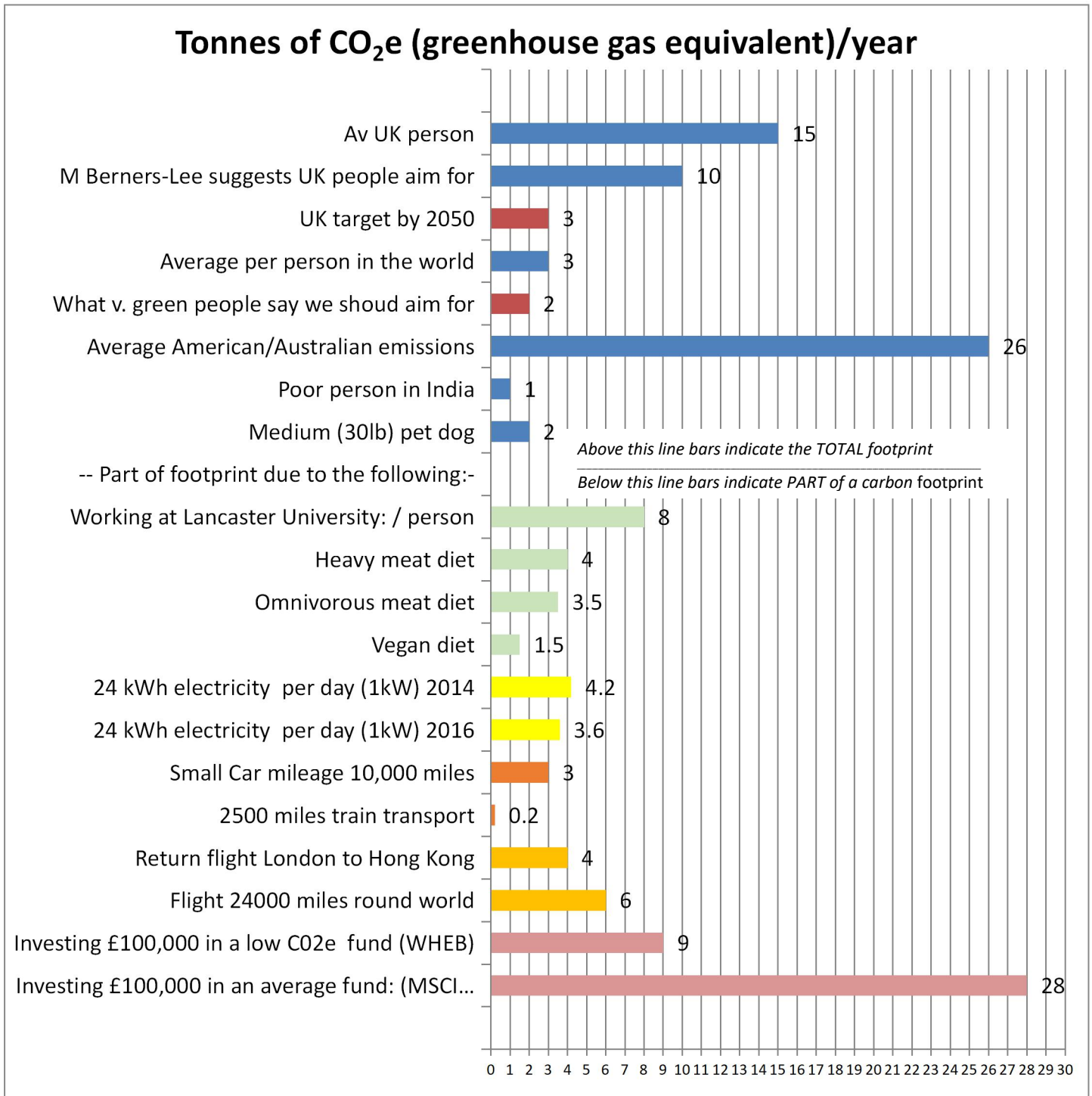
Human caused sources of Greenhouse gases:-

| | | | | |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| <p>Deforestation for soya Palm-oil, cattle, biofuel</p> | <p>Palm oil</p> | <p>Soya bean (for cattle)</p> | <p>Cattle</p> | <p>Making Cement</p> |
|  |  |  |  |  |
| <p>Factory farms</p> | <p>Transport</p> | <p>Fossil fuel Power stations</p> | <p>Melting Permafrost Drying Bogs</p> | <p>HFCs, CFCs + other chemicals</p> |

See if you can reduce your own Carbon Footprint

What issues of scientific interest, choice and fairness do these bars raise?

We must aim for a footprint of 3 tonnes per person if we are to have less than 2°C rise in temperature. (NB: This chart has been compiled by J Allinson from figures from various sources. Some sources give results that are 25% different, for many reasons, but this graph is a good guide.)



Which two bars do you find most interesting, and why?

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Our Banks, Pension Funds, and in some cases our own investments (and church investments) are being invested in industries and fossil fuels which are making the situation worse. (See last two bars.) Read about Christian Aid's **Big Shift** and Operation Noah's **Bright Now** campaigns to see what you can do.