

Info and Sources for Soil Carbon Fungus Brexit

This document gives sources for the information used to make Soil Carbon Fungus Brexit in June 2019. More up-to-date information has been included where appropriate/relevant.

a	<p>41% of soil carbon is stored in permafrost</p> <p>1024 Gigatonnes of soil carbon is stored in permafrost</p> <p>Soil organic carbon pools in the northern circumpolar permafrost region - C. Tarnocai,¹ J. G. Canadell,² E. A. G. Schuur,³ P. Kuhry,⁴ G. Mazhitova,^{5,6} and S. Zimov⁷ Published 27th June 2009 in GLOBAL BIOGEOCHEMICAL CYCLES, VOL. 23, GB2023, doi:10.1029/2008GB003327, 2009 https://web.archive.org/web/20151015155733/http://www.lter.uaf.edu/dev2009/pdf/1350_Tarnocai_Canadell_2009.pdf 2009</p> <p>2500 Gigatonnes of carbon is stored in soil</p> <p>Soil Carbon Storage By: Todd A. Ontl (Department of Natural Resource Ecology and Management, Iowa State University, Ames, IA) & Lisa A. Schulte (Department of Natural Resource Ecology and Management, Iowa State University, Ames, IA) https://www.nature.com/scitable/knowledge/library/soil-carbon-storage-84223790/</p> <p>Arctic permafrost is melting 71 years ahead of schedule</p> <p>Source: Arctic permafrost now melting at levels not expected until 2090 The Independent, 15th June 2019 https://www.independent.co.uk/news/world/americas/climate-change-breakdown-arctic-frost-thawing-canada-environment-a8959056.html</p>
b	<p>81% of UK exports will be made more expensive/difficult by a No Deal Brexit</p> <p>Source to follow; in the meantime...</p> <p>43% of all UK exports in 2016 were to the EU</p> <p>Statistics on UK-EU trade House of Commons Library, 15th July 2020 https://commonslibrary.parliament.uk/research-briefings/cbp-7851/</p> <p>An additional 14% were to countries covered by EU trade agreements</p> <p>Does most UK trade happen outside of the EU and trade agreements? Full Fact, 13th July 2018 https://fullfact.org/europe/does-most-uk-trade-happen-outside-eu-and-trade-agreements/</p>
c	<p>The 2005 Amazon drought caused the emissions of five times as much carbon dioxide as the rainforest normally absorbs in one year</p> <p>Earth Matters Richard Bardgett, Oxford University Press, 2016</p>
d	<p>Over 40% of global land surface is threatened by soil degradation</p> <p>4 per 1000 https://www.4p1000.org</p>
e	<p>2 million families in the UK lived in poverty while having one or more adult in work in 2005</p> <p>7.4 million families in the UK lived in poverty while having one or more adult in work in 2015</p> <p>Monitoring poverty and social exclusion 2016 Joseph Rowntree Foundation/New Policy Institute 2016 https://www.jrf.org.uk/report/monitoring-poverty-and-social-exclusion-2016</p>

f	<p>By the final week of the 2016 referendum campaign, 45% of UK public believed Turkey as going to be fast-tracked into the EU; at the time, Turkey had met 1 out of 35 prerequisites for joining the EU.</p> <p>Post-truth James Ball, Biteback Publishing, 2017</p>
g	<p>40% of the spore mass of arbuscular mycorrhizal fungi is symbiotic bacteria</p> <p>Unattributed study quoted in Teaming With Fungi, Jeff Lowenfels, Timber Press 2017</p>
h	<p>Around 90% of plant form mycorrhizal associations with fungi</p> <p>Plants, Mycorrhizal Fungi and Endobacteria: a Dialog Among Cells and Genomes P. Bonfante, University of Chicago 2002 https://www.journals.uchicago.edu/doi/10.2307/1543562; see also State of the World's Fungi</p>
h	<p>Fewer than 2% of fungal species form mycorrhizal associations with plants</p> <p>State of the World's Fungi Kew Foundation, 2018 https://stateoftheworldsfungi.org/2018/reports/SOTWFungi_2018_Positive_Plant-Fungal_Interactions.pdf</p>
i	<p>The UK spends £805 billion in tax expenditure; the EU determines how to spend £13 billion of that – ie 1.6%</p> <p>Jim Grace, 14th June 2019 https://twitter.com/mac_puck/status/1139492585993641985</p>
j	<p>6.5% of global GDP goes to subsidising fossil fuels</p> <p>Fossil fuel subsidies are a staggering \$5 tn per year The Guardian, 7th August 2017 https://www.theguardian.com/environment/climate-cosensus-97-per-cent/2017/aug/07/fossil-fuel-subsidies-are-a-staggering-5-tn-per-year</p>
k	<p>1 to 5% of soil's weight is alive</p> <p>Earth Matters Richard Bardgett, Oxford University Press, 2016</p>
l	<p>The Democratic Unionist Party, which only stands for election in Northern Ireland, spent £58,000 on its 2015 General Election campaign; it spent £435,000 on pro-Leave campaigning in England for the 2016 EU referendum</p> <p>The 'dark money' that paid for Brexit Open Democracy, 15th February 2017 https://www.opendemocracy.net/uk/peter-geoghegan-adam-ramsay/you-aren-t-allowed-to-know-who-paid-for-key-leave-campaign-adverts</p>
m	<p>Nine of the ten hottest years on record have taken place in the last decade</p> <p>National Oceans and Atmospheric Administration Dataset https://en.wikipedia.org/wiki/Instrumental_temperature_record#cite_note-20</p>
n	<p>0.3% of the UK electorate chose Boris Johnson to be leader of the Conservative Party in 2019</p> <p>138,809 Conservative Party members voted in the 2019 leadership election</p> <p>Boris Johnson elected new Tory leader The Guardian, 23rd July 2019 https://www.theguardian.com/politics/2019/jul/23/boris-johnson-elected-new-tory-leader-prime-minister</p> <p>Size of UK electorate in 2019: 47,074,846</p>

	<p>Electoral statistics, UK: 2019 Office for National Statistics, 27th May 2020 https://www.ons.gov.uk/peoplepopulationandcommunity/elections/electoralregistration/bulletins/electoralstatisticsforuk/2019#uk-parliamentary-electoral-registrations</p>
o	<p>Methane traps 25 times as much heat as carbon dioxide Nitrous oxide traps 300 times as much heat as carbon dioxide</p> <p>Earth Matters Richard Bardgett, Oxford University Press, 2016</p>
p	<p>Including vegetation, soil contains at least three times as much carbon as the atmosphere</p> <p>Earth Matters Richard Bardgett, Oxford University Press, 2016</p>

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