Describe two methods that can help lower an individual's carbon footprint.

Environmental scientists have concluded it is necessary to limit global warming to 1.5 degrees Celsius by 2040 in order to avoid a future affected by its most severe consequences, including extreme droughts, wildfires, floods, mass species extinctions (NRDC, 2021). Since there is near-complete scientific consensus that climate change is happening largely because of human activity increasing greenhouse gases such as Carbon Dioxide (CO_2), many countries and businesses have already pledged support to reduce their CO_2 emissions by taking actions such as switching to more renewable energies. Measuring the amount of greenhouse gases released by a certain activity is commonly called the 'Carbon Footprint' for that activity. Despite much of the attention for change being on countries and corporations, it is also important to think of strategies by which the individual can also slow the rate of climate change, since the aggregate of individual efforts could be profoundly important. This essay will explain two strategies by which individuals can reduce their Carbon Footprint: reducing their use of non-recyclable 'single-use' plastics and improving energy efficiency in their homes.

The reduction of Single-use Plastic Products (SUPPs) is an important means by which individuals can reduce their carbon footprint. The World Bank (2021) reports that the Plastics industry accounts for around 6% of global oil consumption, which is expected to reach 20% by 2050, thereby contributing considerably to greenhouse emissions. In addition, the waste of plastic can also contribute to climate change. For example, just 16% of plastic is presently recycled (World Economic Forum, 2022) with much of the remainder being dumped in landfills or waterways. As plastic degrades it slowly releases even more greenhouse gases. Furthermore, the burning of waste plastic is also common in many parts of the world. This incineration can release *black carbon*, which has a global warming potential 5,000 times higher than carbon dioxide (World Economic Forum, 2022). If private citizens are made aware of the dangers of plastic they will be in a position to make informed choices. Most importantly, individual consumers could prioritize reusable

products, such as by using whatever bags are around the house as many times and in as many ways as possible. Additionally, people could also choose to use reusable drinking bottles or when receiving a take-away meal, instead of throwing away the cutlery and tableware, could save it to reuse in the future (UNEP, 2021). If people can be encouraged to take these simple steps in conjunction with positive environmental policy changes at the government level, levels of carbon emissions will undoubtedly be reduced.

A further method by which individuals can reduce their carbon footprint is to limit household electricity usage. American homes alone are the sixth largest carbon emitter in the world (PNAS, 2020, cited in Sealed, 2022), even in comparison with all global industries, so the importance of saving electricity in the home cannot be understated. This reduction of electricity can be achieved in many different ways. First, the insulation and sealing of a house could be improved. This will allow the cool or warm air generated by air conditioners or heaters to stay in the house instead of escaping. Methods of sealing include filling holes in walls and insulation includes techniques such as installing double-glazed windows or using foam boards and fiberglass in walls and roofs (US Department of Energy, 2022). When these steps are implemented, reduced levels of energy consumption are required to maintain the desired temperature. Second, using smart controls can also reduce energy consumption. These controls allow the user to monitor and set (or re-set) devices in the home by using a smartphone application. For example, it is possible to see which devices are using the most electricity and if devices such as lights are not turned off when leaving the house, they can be switched off remotely. Energy Saving Trust (2022) estimates that the average house in the UK produces 45KG of CO_2 annually merely from leaving electronics on standby. Similar statistics appear globally and as a habit, could be easily changed with the use of smart controls.

In conclusion, reducing SUPP usage and increasing energy efficiency in the house are two practicable means by which individuals can reduce their carbon footprint. As has been explained, reducing SUPPs will reduce the amount of fossil fuel energy

expended in plastics production and lead to a reduction of waste plastic that releases harmful gases. Improved household energy usage can be achieved by installing insulation and sealants as well as using smart controls which will allow the user to see where they are wasting electricity and to be able to switch items off remotely. The effecting of the first change will require a public information campaign and perhaps the use of nudge-economics such as charging for plastic bags. The second, though, may require a more proactive government policy, as many households simply do not have the money required to make the initial investment in upgrading their homes. To facilitate their doing that, there will have to be government grants and tax breaks. Perhaps most importantly, though, individuals need to be persuaded that their small efforts and minor inconveniences are not mere 'gesture politics' but are part of a concerted movement that really can achieve profound change.

Word count: 867

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