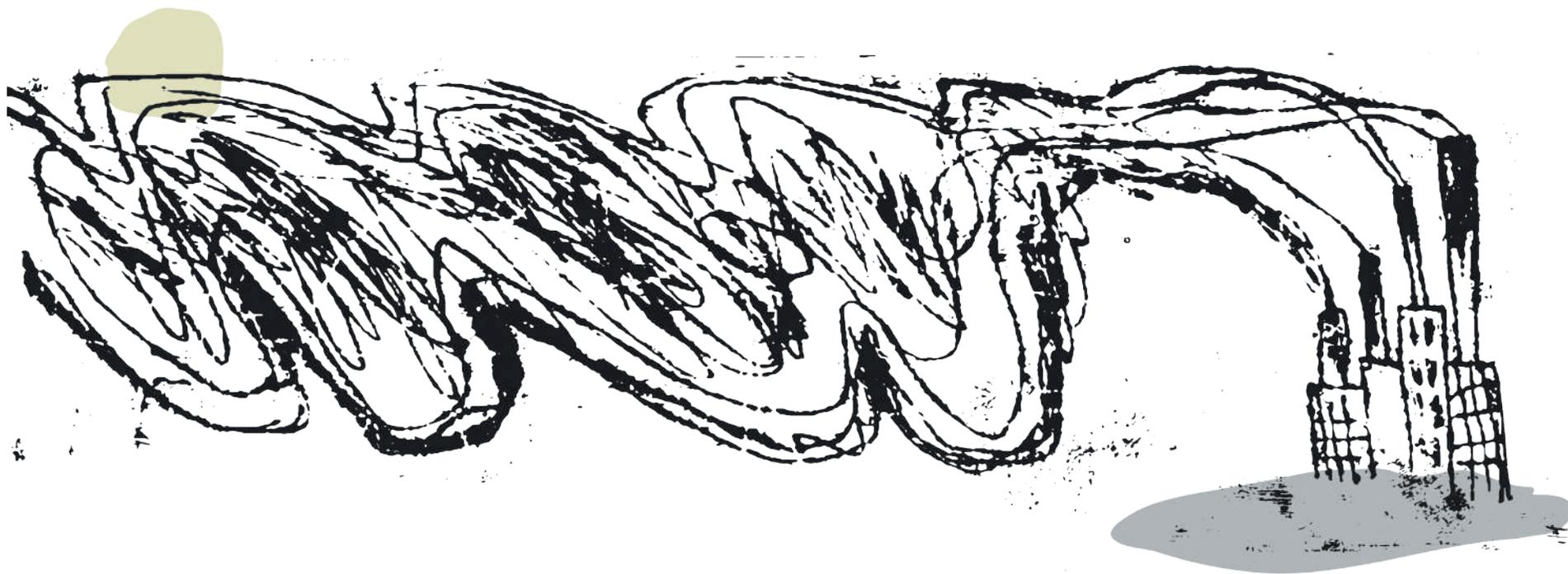


UK BUSINESS NEEDS SUSTAINABLE I.T. TO BECOME NET ZERO



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H.M. Government plans for the UK to be net zero by 2050. National emissions will be reduced as far as possible, and the rest balanced by schemes to offset an equivalent amount of greenhouse gases (GHGs).

Tree planting will play a part; the process of converting light energy into chemical energy via photosynthesis absorbs CO₂ and emits oxygen.

However, this natural capacity is limited by one key factor: land mass. As our climate crisis deepens, tree-planting strategies will only take us so far before we reach our coastlines.

CLEANING UK AIR

If the GHG emissions created by any country exceed the capacity of a forest equal to its land mass, then that nation must look to other sources in order to sequester pollution.

As an example, the UK's land mass is 60 million acres. Last year, the UK created over 450 million tCO₂e GHG emissions. To remove this level of pollution via photosynthesis would require over 580 million acres of forest. That's a land mass nearly 10 times the size of the UK and over 70 times larger than our current available woodland.

It's reasonable to say that, mathematically, the UK is currently relying on the rest of the world's forests to clean its air.

Consequently, we need to examine all realms to find new ways to reduce emissions. One of the possibilities is sustainable I.T. in business.

BUSINESS EMISSIONS

UK GHG contributions differ from global statistics based on our specific geographic and socio-economic profile. Transport is the largest contributor at 26%, caused by 808bn annual passenger miles. It's followed by energy supply (25%), business (17%), agriculture (10%) and waste management (4%).

By nature of requiring goods to be transported, employees to commute and operations to be powered, UK business contributes significantly to the top three GHG emission sources.

The government recognises this; since last year, all quoted companies operating in the UK, large unquoted companies and large limited liability partnerships (LLPs), government departments, non-ministerial departments, agencies and non-departmental public bodies have been subject to annual mandatory GHG emissions reporting.

The organisations subject to this newly expanded legislation are categorised as the 'service sector'. They collectively employ 16.1 million people, with 10.7 million working in large companies and 5.37 million in the public sector. This represents 50% of the UK total workforce (32.4 million).

The service sector consumes 32% of all UK electricity, with 11% attributed to the use of I.T. solutions. As a result, I.T. is the sector's third-largest consumer of electricity behind lighting (14.5%) and cooling and ventilation (13.4%), creating an estimated 7.8m tCO₂e of annual GHG emissions.

I.T.-RELATED EMISSIONS

While I.T. GHG emissions are typically accounted as scope 2, there are also scope 3, 'people-based' GHG emissions associated with business I.T.

Companies are only slowly realising their wider impacts and responsibilities. Statistics indicate that almost 11 million service sector workers commute by car, and 67% use computers to

conduct their work. This equates to almost 31bn car miles per year being travelled to access I.T. systems, generating 12.6m tCO₂e annual emissions.

Combined, the UK service sector produces over 20m tCO₂e of I.T.-related emissions annually. It would take 24 million acres of forest to sequester that level of pollution – or a woodland almost half the size of the UK.

NEW STRATEGIES

UK businesses need to consider new ways and means to shrink their corporate carbon footprints. Adopting bold steps to measure, account for and reduce GHG emissions through innovative sustainable I.T. solutions is critical if we are to achieve net zero by 2050.

The emissions created by running computer devices and data centres – plus commuting to and from work – are areas with significant potential for mitigation. The effects of the pandemic should present an opportunity to review and plan new I.T. strategies that are consistent with addressing another urgent global challenge. ■

FURTHER INFORMATION

■ More on Dr Frederik Dahmann is at wbs.ac.uk/about/person/frederik-dahmann