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Editorial

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Editorial

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It is the beginning of 2022, and perhaps a time for reflection as well as new year's resolutions. It is also a good opportunity to introduce ourselves as new editorial panel members and collaborate to offer our perspective from both academia and industry, and two different countries: the Philippines and the UK.

Waste management or lack thereof is a global issue that impacts everyone. Half of the waste produced globally isn't collected, treated, or disposed of properly and this is causing a global waste crisis (Lenkiewicz, 2016). Greenhouse gases (GHGs) from waste are a key contributor to climate change (The World Bank, 2018). In the UK the waste management industry was responsible for around 4% of GHG emissions in 2019, with methane from landfills being by far the most prominent gas (BEIS, 2021). Open burning of waste can also contribute up to 10% of global emissions (Reyna-Bensusan *et al.*, 2019). Therefore, perspectives and action from every country to manage waste are needed to mitigate and adapt to climate change.

The start of 2022 gives us the unique opportunity to look back at the last two extraordinary years. Life in a global pandemic continued, the Covid-19 vaccine rolled out, mask wearing became the norm and 2021 saw many organisations declaring a climate emergency and setting targets and commitments such as net zero for the years ahead. The year also saw a growth in demand for electrical vehicles, discussions about hydrogen fuel and the Conference of the Parties (Cop26) in November.

2021 was also the year that ICE Publishing signed up to the Sustainable Development Goals (SDGs) Publishers Compact and committed to publish journals that will help inform, develop and inspire actions for a sustainable future (ICE, 2021). We hope to see SDG symbols on some of our papers soon, since waste resource management can help to deliver all SDGs. Recycling creates jobs to reduce poverty; nutrients from biowaste, food waste and even human excreta can be recycled to grow crops;

recycling also prevents impacts on life below water and life on land and reduces emissions from burning and landfill.

Cop26 brought together world leaders to tackle climate change. Perhaps the event didn't live up to the hype in the media but there were some important policy outcomes and hundreds of cities, businesses, investors, and higher education institutions signed up to the Race to Zero, the largest ever alliance committed to achieving net-zero carbon dioxide emissions (UNFCCC, 2022). Nations also adopted the Glasgow Climate Pact, aiming to turn the 2020s into a decade of climate action and support (UNFCCC, 2021).

The lack of 'resources and waste' representation in the Cop26 programme was labelled a 'critical oversight' by the president of the Chartered Institution of Wastes Management (CIWM), Dr Adam Read, reiterating the crucial role that waste and resource management has to play in supporting the reduction of carbon dioxide ('decarbonisation') (CIWM, 2021), whether this is waste minimisation and reuse, recycling more, reducing open dumping and burning of waste and methane from landfills, preventing ocean plastics, using electric and hydrogen waste-collection vehicles or decarbonising buildings and infrastructure using renewable energy. A circular carbon economy linked to waste management systems could support innovative industries and green jobs while reducing emissions and increasing resource efficiency.

As noted in the paper by Aminu *et al.* (2022: p. 3) 'there is a growing interest in thermal recycling routes to produce higher-value end-products' such as hydrogen. So much so that the UK government has launched a new programme to help develop innovative technologies to produce hydrogen, a clean energy source, from sustainable biomass and waste (Moore, 2022). The use of hydrogen in transport for both the waste and construction industry is a hot topic. The Hector (hydrogen waste collection vehicles in north-west Europe) project (Interreg NWE, 2022) will deploy and test seven fuel-cell garbage trucks across the

north-west Europe area in the coming years and JCB have developed a hydrogen motor (JCB, 2022).

Whilst developing countries are putting in place waste industry decarbonising initiatives and using waste to make energy, in stark contrast in low-to-middle-income countries waste management is still a matter of public health. The link between poor waste management and ocean plastics is also clear. More than two-thirds of the global total of ocean plastics originates from the top 20 polluting rivers in Asian countries like the Philippines (Lebreton *et al.*, 2017). Proper waste management on land thus plays a crucial role in stopping the release of plastics into our rivers and oceans.

The paper by Mohammed *et al.* (2022) compares waste management in two cities in Ghana and Turkey, a lower-middle-income country and an upper-middle-income country, respectively. The research highlights the very clear differences in priorities for waste and resource management resulting in the utilisation of different strategies, techniques and technologies. Indeed, one-size-fits-all solutions will not work.

Moreover, the Covid-19 pandemic not only exacerbates the pressure on global plastic pollution but also brings new kinds of waste to be managed in already overwhelmed waste management systems, where these exist. Piles of electronic waste (E-waste) are expected to continue rising rapidly as Covid-19 catalysed our society's wider digital adoption and transformation. Blockchain-enabled cryptocurrencies had even contributed thousands of tonnes of E-waste from equipment used to mine Bitcoin (de Vries and Stoll, 2021). How shall we solve these growing problems on waste amid the looming crisis? It is as if we are in a game of whack-a-mole, and as such it is typical that new concerns may arise.

So, we end our editorial at the start of 2022 with a call to action. We hope you can be part of the multi-sectoral and cross-disciplinary collaboration needed to anticipate the emerging problems and address the climate emergency and the challenges and opportunities of waste and resource management across the world. The *Waste and Resource Management* journal publishes its most recent articles Ahead of Print on its Virtual Library homepage allowing you to keep up to date with the latest papers.

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