World Habitat Day highlights the central role our cities and communities play in achieving the Sustainable Development Goals. Well-planned and smartly managed cities can steer us towards inclusive growth and low-emission development.

At the same time, rapid and unplanned urbanization can generate or exacerbate many challenges, including the climate crisis.

This year’s observance focuses on the problem of waste – and the potential of frontier technologies to transform waste into wealth.

Solutions begin with small steps individuals can take to alter the way our cities function. We must reduce the amount of waste we produce, and, at the same time, start seeing it as a valuable resource that can be re-used and recycled, including for energy.

Frontier technologies can offer better and cheaper answers to these daily challenges. For example, automation and artificial intelligence can help sort recyclables more efficiently. Sensors in smart packaging can help reduce food waste, while other innovative technologies are turning organic waste into renewable energy and compost. And new materials – such as advanced biodegradable plastics – can reduce environmental impact.

But we still need to invest much more if we are to improve waste management.

With cities in the lead and frontier technologies in widespread use, we can achieve make major advances on the road to sustainable urban development.