Working in the Strategic Sustainability consulting team at Ramboll often involves supporting clients with technical problems relating to sustainability. It is important that we are able to effectively communicate complex topics to a non-technical audience. As a lot of our client contacts run large departments and are very busy, it is also important that we are concise and clear.

As part of the interview we would like you to give a short (5-10 minute) presentation on a topic relating to sustainable economics. You should present as though the audience has a general, but limited understanding of sustainability and no economics background. A possible structure could be:

* About the sustainability topic
* Why the client should be aware of it
* The value of using or appointing an economics consultant to support them

Your presentation should focus on a sustainable economics topic of your choosing, but for background some recent examples of sustainable economics project at Ramboll include: an assessment of the value of tree planting as part of a public realm improvement for a local authority client; a business case for carbon capture and storage projects; and economic comparisons of different green fuel options for industrial use.

Thank you for allowing me to do this interview on teams – your understanding is much appreciated – I landed in London at about 7 this morning.

I also want to apologise as I had the genius idea of making a presentation on the plane – but did not have the foresight to download PowerPoint onto my laptop. I wrote my script on word and I decided to use VSC instead to make a very basic website and made a fancy background to make up for it.

Script

Plastic pollution – Plan - AI to revolutionise recycling rates.

Background

Assuming my client is:

National Government Agency: Your client could be a national government agency responsible for environmental regulation or waste management.

Local Recycling Centre: Alternatively, your client could be a local recycling centre looking to enhance its operations and attract more customers.

About plastic pollution

As the graph shows global plastic waste generation is set to triple by 2060 and recycling rate is only 9%.

Proves we are far from the circular economy that we want to be at.

For those of you who do not know - (Circular Economy - an economic system based on the reuse and regeneration of materials or products, especially as a means of continuing production in a sustainable way)

Why is this a problem?

Most people now recognise that **society’s unrelenting consumption** and waste generation is harming our planet beyond repair.

It is not hard to **find heart-wrenching images** of developing countries littered with plastic waste (often generated by developed countries)

Plastic pollution results in significant environmental, economic, and social costs:

* Impact on marine life
* Tourism

There is also a **growing awareness that virgin plastic production** alone generates well over **1 billion tonnes of annual greenhouse** gas emissions.

What can you do?

We have seen some attempts over the years to **change consumer habits** and make people recycle more conscientiously; most of these sadly failed because **most consumers** will always **prioritise convenience** over anything else.

We need to **tackle the problem at the underlying infrastructure** level to have real impact.

Many ways AI can and is benefiting recycling plants – which I am sure you, as the client, is using some of

**-Sorting and separation** - AI-powered robotic systems equipped with sensors and cameras can accurately identify and sort various materials

**-predictive analytics** - such as the types and quantities of materials likely to be recycled in specific regions or times. This information can help recycling facilities better plan their operations, allocate resources effectively.

-**Quality Control**

The one I want to talk about is currently massively underutilised – potential to massively impact you and the whole recycling industry.

Quality control - using computer vision and machine learning.

**One of the biggest challenges in our industry is assessing the true quality of recyclable materials!**

You may be wondering why this is important?

– best described by the Market for Lemons Theory, developed by the Economist George Akerlof – who won a Nobel Prize for it

– The market for Lemons – initially bout used cars

The basic tenet of the lemon’s principle is that low-value cars force high-value cars out of the market because of the asymmetrical information available to the buyer and seller of a used car.

Seller is unwilling to pay a premium on the chance that it might be a lemon.

Premium-car sellers are not willing to sell below the premium price, so only lemons are sold.

Applied to the recycling industry:

The Recycling Industry’s Market for “Lemons”

The absence of accurate quality assessment leads to good suppliers of recycling being unable to differentiate themselves from ordinary or malicious suppliers.

This leads to a market where buyers cannot distinguish between good and bad products.

It is this difficulty in understanding true product quality that makes buyers hesitant to pay a fair price for good quality material.

Over time, this has resulted in a reduction in the supply of high-quality materials, since there is simply no reward for ensuring a high quality.

Therefore - only lemons are sold – which has very little use to producers – terrible recycling rates …

Solution:

To properly address this issue, accurate methods of material quality assessment need to be created and maintained.

Only this will ensure fair pricing and allow the production of high-quality materials to receive genuine rewards.

Quality Control: AI systems can monitor the quality of recycled materials by analysing data from sensors and cameras throughout the recycling process.

With AI-enhanced quality control, sellers can prove their material quality and drive better prices while buyers know they’re getting exactly what they expect.

This way, buyers can be sure that the material quality is always fully disclosed. At the same time, sellers can achieve greater pricing for their high-quality materials.

Why do you need an economics consultant?

Thank you for listening. Do you have any questions?

AI questions predict?

Find out more about AI quality control for recyclables.