Data from Italy on the market for compostable materials

On June 18th in the presence of the Italian Minister of Environment Sergio Costa, the Italian association for bioplastics (Assobioplastiche) has presented the latest market data for 2019. Several members of Assobioplastiche are also members of the BBIA in the UK.

The Italian market for compostable materials has grown and is growing rapidly, with 110,000 tons produced in 2019 (slide 12). This has grown since 2012 from 39,250 tons. The number of companies involved in the chain of producing bioplastics has boomed from 143 in 2012 to 275 in 2019 (slide 9). 2012 is an important date for Italy because this is when the Government introduced a ban on the sale of lightweight carrier bags unless they are compostable, leading to growth in the market for compostable materials (and a rapid overall decline in the use of carrier bags as the slides show).

The number of employees in the sector has grown from 1280 to 2645 (slide 11) whilst the overall turnover of the sector has doubled in 7 years to reach €745 million in 2019.

Other slides show the sectors which are progressing most whilst slide 15 is interesting because it shows how the amount of single use carrier bags sold has declined rapidly since the introduction of the ban in 2012 on plastics exempting compostables. The decline continues. Slide 16 shows that one third of all carrier bags sold in Italy are still made from plastic, and are therefore illegal, but this share of the market is falling too as activities to contrast the illegal distribution of plastic bags continue.

The Italians are justifiably proud of their success because they are world leaders in this sector.

Often I am asked, if we were to make all these materials, is there an infrastructure in the UK to treat them?

The Italian data are clear. The amount of food and garden waste which are treated in 300 compost and AD plants in 2019 there was 6.8 million tons of which 70% was food waste. The amount of compostable material in total placed onto the market represents just 0.015% of the total capacity of Italian compost plants; even were, in the next ten years, that total to double, as you can see the amount needing treating is insignificant in terms of the capacity of composting and AD to accept them.

The same is true of the UK where a similar amount of garden and food waste is treated by 300+ compost and AD plants. The issue is not whether the plants can treat them, but whether they are collected and treated at all. And let's recall, the amount of food and garden waste to be treated in the UK will increase rapidly after obligatory food waste collections enter into force in 2023.

In Italy the current measurement which the composting industry makes of the waste it receives, shows that 50% of compostable materials placed onto the market are effectively treated in composting and AD. As much as 5% of inputs of food and garden waste in some plants that have worked most closely with the supply chain are compostable materials. They are treating this without difficulty.

These volumes are due to the widespread collection of household and business food waste across central and northern Italy, with which compostable materials (above all bin liners, carrier bags which are re-used as bin liners, fruit and vegetable bags, coffee pods, tea bags, labels, catering ware, food packaging etc), are collected together. Under their new EPR scheme known as BIOREPACK, the national target they should meet for effective recycling of compostable packaging is 60% by 2035. They are not far away.

The other question I am asked is, if compostable materials are such a small part of overall packaging, why bother?

The point the Italians make, and their Minister made publicly, is that bioplastics are instruments to ensure food waste is collected and treated correctly. Just like you need 5 litres of engine oil to stop a 1000 kilo automobile from seizing, you need materials that can be treated in composting and AD to ensure the plants work efficiently and are not overwhelmed by plastics. Further, those 110,000 tons go to substitute plastics which we all know are never recycled, because they are almost impossible to collect and treat- plastic carrier bags, plastic bin liners, plastic films covered in food, tea bags, coffee pods and many others. So not only do we get clean food waste, we reduce plastic waste we cannot recycle.

Finally, as the Italians have shown, they can kick start a new industry and produce these materials *there*. They no longer need be imported from China or the USA. They use local agricultural feedstocks, stimulating farming especially in more arid areas; they convert disused chemical plants; they treat the products end of life, *there.*

There is nothing exceptional about Italy. The UK has easier access to finance, as much technical and scientific capacity, a legal system which the world admires and the same size market, but we are heavily dependent upon imports for our packaging industries.

What is missing? The Italians, to kick start this industry, did two simple things that had zero cost to their Treasury.

1. Make the collection of food waste with compostable bin liners obligatory to ensure food waste is not a carrier to soil of plastic fragments from plastic bags. This is a huge issue in the UK where we are polluting soils with alarming amounts of plastic fragments from AD and composting. This will require some adjustment, but it is really not difficult and in Italy was done overnight in 2010. It is amazing how quickly industry adapts to new laws.

2. Ban all single use, lightweight carrier bags unless they are compostable. Make people pay for them regardless (5p, 10p) to reduce consumption too. Citizens can then use them as bin liners saving councils money on distributing them. If they get littered into the environment we know from Plymouth University they will biodegrade within 3 months in water and the open air. However, as they have a clear end of life through food waste collections, littering is unlikely to be the issue it currently is for plastic bags.

   In Italy this has led to a dramatic decline in overall bag use as we can see in slide 15 , as people bring their own bags to shop, whilst it has created an Italian industry making compostable bags. Again this was done overnight, in 2012.

These are two drivers tried and tested. I am sure there are others. But we know we have a problem of plastic waste going to soil and we know we have to collect food waste cleanly and by tying the two together we find solutions.

If we wish to drive new industries, create employment, economy and added value, here is one industry waiting for the right signals from the UK Government. Investments in the UK could top £500 million in a short time as we have seen in Italy and after COVID-19 we desperately need innovative, environmentally sound industries to invest now.

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