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Plastics is the sustainable choice

Confident and passionate advocates for sustainable plastic products

I've just returned from a visit to Tenerife. One of the joys of being recently retired, holidays in March. We were staying on an organic banana plantation on the peaceful North coast, surrounded by thousands of banana trees. Half of the big bunches of bananas on the trees were wrapped in blue plastics bags. I was curious and asked one of the locals why? Apparently putting bananas in these blue PE bags promotes growth by preventing the sun's UV from early overripening them and also prevents insect and bird infestation without using chemicals. Of course when the bananas end up in a supermarket or health food shop, much will be made of the fact they are sold plastic free etc.

Just one small example of how plastic is demonized in the food industry where the world could not hope to feed itself without polytunnels and irrigation pipes.



Over the past 15 years or so the Plastics Industry has taken a beating. About 5 years ago when the full extent of microplastic marine waste became fully understood and publicized, the very word plastic became toxic and businesses whether directly or indirectly involved, tried to distance themselves from the association with the word Plastic. Companies changed their names and plastic-free was the new marketing watchword. What socially and environmentally aware young adult is going to want to have anything to do with the plastics trade, it would have been like joining the tobacco or arms industry when I was a student in the early 1980's.

We in the plastic sheet industry try and defend our own interests by claiming in our marketing literature how wonderful our own particular plastic products are, compared to other plastics or maybe other materials; whereas the real issues everyone should be interested in are: the correct disposal, reuse, recycling and handling of single use plastic packaging waste and the schemes we should all have in place, to deal with end of life recycling for those plastic products that go on to be used for many years.

I believe we need to start at home and educate everyone in our organizations with the facts and help them become real advocates to reclaim the word Plastics as a potential force for good in a sustainable world. We need to separate in peoples' minds, their genuine

concerns for the burning of oil based products contributing to climate change, the problem of marine plastic waste and be passionate about the fact that plastics can be so important to contributing to reducing greenhouse gases and tackling climate change. We depend on plastics, our everyday lives rely on plastic products. Any plastic waste in the environment is of course unacceptable and all new plastic introduced into the world must be sustainable.

We need to ensure that our employees, especially those talking to their customers are fully aware of all the international agreements that our governments have signed up to: such as the Paris Agreement and the European Green Deal, so when talking about the plastics industry and the environment, they can do so using knowledge and facts rather than common perceptions/misperceptions and gut political feelings. The more knowledge of the wider issues will give more credibility to the sustainable message plastics has to offer.

The Problem With Packaging

It was 5 years ago that David Attenborough's hard hitting TV documentary Blue Planet 11 highlighted (certainly in the UK anyway) the extent of plastic pollution in seas and oceans. It was estimated 8m tonnes of plastic per year enters the sea, mainly through rivers, breaking down into micro-particles, causing long term damage to the whole eco system. Tackling plastic pollution and unnecessary plastic waste that is not recycled properly and economies where there is no serious plan to recycle plastics is a huge global problem. BUT the single use plastic packaging industry which is by far in a way the biggest contributor to the problem is NOT our industry. We need to ensure everyone in our industry: our Employees, our Customers and our Customers' Customers know the difference between the products we sell for medium/long term lifecycle and single use plastic packaging. They also need to know exactly what the responsible end of life plan is for all the plastics going through their organisations.

Sustainability

If we are to attract the best talent to our industry and give our customers the confidence to present plastic products and solutions to their customers, then we must train our employees and customers to understand the sustainable values of plastics and in fact to be the material of choice for the most sustainable reasons of all:

"Saving energy and Reducing the burning of fossil fuels"



This should be the absolute focus of everyone's efforts to get that message across, as burning carbon products is the main cause of climate change which is by far the biggest environmental problem we have today. Many of our products are used to save energy/ resources and should not be confused with the terrible problem of single use plastic packaging, disposed of incorrectly and ending up in the sea.

It is so damning and so wrong that somehow plastics are associated by lazy thinking with climate change, the biggest threat to the planet's future, whereas in fact plastics are so useful in so many ways to achieve sustainability and net zero carbon emissions.

Plastics Europe

This organization represents us as a single voice for the plastics industry in Europe when it comes to national and EU level policy makers. It is made up of the big chemical companies producing 90% of the plastics made in Europe. 40% of their market of course is the single use plastic packaging market, which is where all the pressure and pain is coming from European legislation. But they also produce most of the plastic for our markets as well. Their website and publications are an excellent source for the educating and training I am proposing.

They claim to represent 1.6m people employed across the plastics industry (value chain) with a turnover of €360bn. Plastics Europe is committed to the Paris Agreement and European Green Deal.

Paris Agreement

This is a legally binding international treaty between 196 countries in 2015 with 5 main points.

1. Limit global warming to less than 2°C above pre-industrial period.
2. Achieve climate neutral world by 2050
3. Each country to agree an NDC (Nationally Determined Contribution) every 5 years
4. Each country to work towards (not mandatory) an LT-LED (Long Term Low Emission Development)
5. Provide support for developing countries who need help

European Green Deal

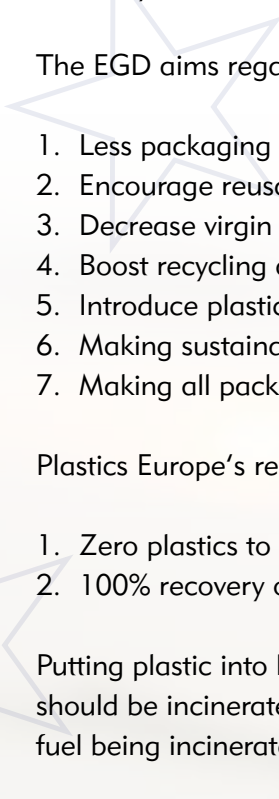
This is the EU's response to carrying out the Paris Agreement in Europe, with the stated aim of transforming the EU into a modern, resource efficient, competitive economy.

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1. Zero net emissions of greenhouse gases by 2050
 2. Economic growth decoupled from resource use
 3. No Person/Country left behind
 4. One third of all investments of European recovery deal (€600bn) to be spent on achieving EGD
 5. Reducing net emissions by 55% by 2030.

The big plastics part in the EGD is for the end of wasteful packaging and to boost the reuse and recycling of plastic.

Numbers they use are currently 180kg of packaging waste per person per year in EU. Currently 40% of all plastic in EU is used for packaging compared to 50% of all paper.

The EGD aims regarding plastic are:

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1. Less packaging overall
 2. Encourage reusable packaging options
 3. Decrease virgin material usage
 4. Boost recycling and be less dependent on: primary sources and external to EU sources
 5. Introduce plastic packaging tax
 6. Making sustainable products the norm
 7. Making all packaging recyclable by 2030

Plastics Europe's response to EGD is committing to strive to achieve:

1. Zero plastics to landfill by 2025
2. 100% recovery of plastic waste.

Putting plastic into landfill is a waste of a vital resource. If it cannot be recycled then it should be incinerated as it has a high calorific value. This would directly substitute fossil fuel being incinerated.

In the 10 years previous to 2019 there was a 43% decrease in plastic going to landfill.

The message should be plastic is too valuable to be wasted.

Conclusion

We need to make sure our employees and customers are aware of all the real issues and treaties concerning the plastic industry, so they can be: confident and passionate advocates for the sustainable, energy efficient plastic products they sell, in line with the aims of global climate change targets.



10 Reasons why Plastics is the Sustainable Choice

I have chosen 10 general properties of the mainstream plastics that demonstrate how achieving a net zero carbon economy would be impossible without plastics.

1. **Lighter** – It takes less energy to move lighter objects, so whether for packaging, vehicles, or anything that moves or is moved, plastics are usually lighter than non-plastic alternatives.

2. **Inert** – Plastics are generally more corrosion resistant and weather/water proof than equivalent metal and wood alternatives. This means they can generally last for longer and do not have to be: replaced, protected and then re-protected when in service. Blood bags used in hospitals are an example of a life-saving product that can only be made with PVC. Using a combination of its inertness and other properties listed below.

3. **Properties Altered** – Plastics can have their properties changed easily with multiple additives. Whether it be: strength, toughness, flexibility, fire resistance, colour, light transmission, antibacterial and many, many more. No other group of materials can be altered so much.

4. **Manufacturing and Fabrication methods** – There are many different routes to turning Polymer granules or powder directly into finished objects or useful formats that then go on to be fabricated. Injection/Rotational/Blow moulding, extrusion, etc generally take fewer steps and less energy than other materials to get to the finished object. This “Reduces” waste material, important for sustainability. Thermoplastic sheets can then be formed easily by heating them up to their softening point and forming or bending to required shape.

5. **Strength and Toughness** – This does not necessarily apply to all plastics, but for many applications plastics can be stronger and tougher than the non-plastic alternative. For example Polycarbonate is 200x stronger than glass. This leads to energy saving products

6. **Insulation** – Better insulation is all about energy saving and efficiency. Plastics are in a field of their own when it comes to: Heat, Electric and Sound Insulation. Whether it be for wiring, electrical equipment, pipes, clothes or window frames.

7. **Recyclable** – The majority volume of plastics used are thermoplastics, which mean they can be chipped up and re-used for the same application, again and again. This of course needs organization to happen as much as it should. It needs product design to help isolate the plastic from other materials, it needs collecting at the end of life, then chipped and kept as pure as possible.

8. **Cheap** – A material may be the most sustainable option for a product, but if it is too expensive, then it will never get used. Many simple plastics can be very economical. On the other hand some very specialized plastics that have properties that nothing else can compete with can be very expensive. Historically a big part of the problem with plastic waste and disposal has been that many plastics have been too cheap and it is much cheaper to produce a new one, rather than reuse or recycle old one.

9. **Unique properties** – There are many essential items today that just would not be produced or exist if it were not for the unique combinations of the properties of plastics.

10. **End of Life Alternatives** – The first end of life alternative should always be to “Re-use”. Plastics of course with their combination of: Strength, Inertness and Shelf-life, have all the properties required for a long service life and with the right design the possibility of re-use. We have already discussed how easy it is to “Recycle” thermoplastics. But if for whatever reason plastics cannot be recycled then they can be efficiently incinerated. Most plastics have a high calorific value and even though it will result of course in CO2 being produced, if done in place of fossil fuel, it would be a net zero contributor. Unfashionable as it may sound, landfilling inert plastic that will not leach additives into groundwater is a very environmentally sound perfect carbon sink solution.

Just do not allow it to be thrown into the river or sea.

April 2023,
Duncan Smith

