UK Manufacturing Commission
Inquiry into Industrial Sustainability - Public Call for Evidence

Evidence from AkzoNobel UK

About AkzoNobel

AkzoNobel is a leading global paints and coatings company and a major producer of specialty chemicals. We supply industries and consumers worldwide with innovative products and sustainable technologies designed to meet the growing demands of our fast-changing planet.

Headquartered in Amsterdam, the Netherlands, we have approximately 47,000 people in around 80 countries, while our portfolio includes well-known brands such as Dulux, Sikkens, International, Interpon and Eka.

In 2014, our businesses generated €14.3 billion in revenue and €987 million in operating income.

AkzoNobel has a clear set of published sustainability targets that are set out alongside our corporate financial targets as core business drivers. These targets currently extend out to 2020 but are in the process of being further developed out to 2025.

Our 2020 targets are;

1. To achieve 20 percent of our revenue from products which deliver a significant sustainability benefit to our customers when compared to the main market alternatives.

2. To reduce the cradle-to-grave carbon footprint per ton of sales by 25–30 percent, from 2012 to 2020.

In addition, Resource Efficiency Index (REI) is our new internal indicator measuring how efficiently we generate value, expressed as gross margin divided by cradle-to-grave carbon footprint. By using these two metrics which both relate business performance to environmental performance we are clearly making the point that, to AkzoNobel, 'business is sustainability and sustainability is business.'

In 2014, AkzoNobel was ranked number one in the Materials industry group of the Dow Jones Sustainability World Index (DJSI World) for the third consecutive year.

More information can be found at https://www.akzonobel.com/sustainability/ and as Appendix 1 to this submission.

Summary of our key points

1. There should be a new and bold national policy to increase the use of renewable or other low-carbon energy sources, to “effectively reduce the proportion of carbon in the UK energy mix”. There should also be a broader range of incentives for UK manufacturers to invest in on-site renewables and to improve energy efficiency.

2. The key waste management infrastructure, in our case waste stream management, should be consolidated, at least to the level of a national vision and policy, as is the case in most other European countries.

3. Regulations concerning the handling and transporting of waste and also regarding materials management, such as REACH, should be reviewed by the UK government to assist in the recycling of materials and appropriate derogations should be made more easily available for companies trying to operate waste recovery and / or closed loop systems.

4. Thought should be given to achieving the right balance between industry solutions backed by jointly agreed and appropriate legislation and ‘voluntary commitments’.

5. An active government policy of ‘Green Procurement’; that is, to specify and purchase products which deliver demonstrable sustainability benefits, will greatly help in the further development of the market in sustainable goods and services. It is clearly understood that this should not be at the expense of product performance or best value, but requires an appreciation that a measure of ‘best value’ should include environmental performance.

6. Government should support long-term sustainable business initiatives by maintaining a consistent and generally positive message in the media. This should include seeking cross-party consensus wherever possible and especially an overall agreement on core values.

7. The government should look to both promote science in general but also to highlight and promote its support for specific science and technology projects linked to sustainability, which can capture the imagination of a new generation.

8. The government should do more to promote partnerships between manufacturers and social enterprises, by producing framework policies that assist in avoiding potential unintended liabilities and by making the output of social enterprises more commercially attractive, for example by exempting them from VAT.

9. AkzoNobel is headquartered in the Netherlands, where the government has made a concerted effort to position their country as a hot spot for innovations in sustainable manufacturing. Their efforts seem to be attracting the attention of global business leaders and we believe there are valuable lessons to be learned from such an approach.

Our Submission

This response from AkzoNobel will seek to answer the questions set down in the call for evidence by drawing both from one specific project upon which we are currently engaged (the development of a circular economy model for the management of Post Use Waste from Decorative paints) as well as our wider Sustainability plan. This is expressed through our 'Planet Possible' strategy:
By doing radically more with less and by working closely with customers and suppliers, we can create more value from fewer resources for our customers, ourselves and society as a whole.

We have set ourselves challenging sustainability targets which build on previous successes in reducing our carbon emissions, reducing waste from our own operations and consistently seeking to engage and educate our customers, suppliers and staff on all of the issues which comprise a sustainable business model.

However, there are challenges yet to be overcome.

For example, within the context of the Decorative Paints business, in order to deliver an important target on VOC emissions and thereby a lower carbon footprint, a key driver will be to move from solvent-based coatings to water-based technology, while delivering the same product performance and at the same cost, into a market which, especially amongst professional users, is deeply suspicious of any such change.
Similarly, our initiative to recapture and recycle waste from decorative paints presents a plethora of challenges, ranging from how the waste is collected, remanufacturing it economically and convincing end-users of the benefits of the new products.

The wider economic context also poses challenges. The DIY market is struggling to recover from recession, there is constant pressure on prices and production costs, a high degree of customer apathy about sustainability issues (especially among consumers who purchase these products only infrequently) and a political climate which does not present environmental concerns as a key priority in national policy.

A positive consequence of these challenges in moving towards a more sustainable industrial system is that they have become a driver for innovation. A key stated objective of AkzoNobel is to ' do radically more while using less', which drives our scientists to seek technical solutions to the problems above and our manufacturing operations to operate ever more efficiently, using less energy and water and producing less waste. All of this has the additional pleasant outcome of reducing costs. However, such changes often require up-front investment and while we do allow longer payback periods on capital proposals that deliver a sustainability benefit, external **incentives from government would be a very considerable help.**
It is also fair to point out that manufacturers such as ourselves appear to be the main source of pressure on upstream raw material suppliers to lower their carbon footprint. There appears to be little other pressure on them to change; government could also affect this and help us in return.

We are also challenging our sales and marketing teams to engage customers with the output from this as part of our 'Planet Possible' strategy, to provide our customers with innovative solutions to their own sustainability challenges.

Finally, in developing this approach to a more sustainable long-term business model, we have had to engage with other stakeholder in the societies in which we operate in order to make our objectives become more aligned with theirs. This is evidenced through our 'Human Cities' initiative, through which

we aim to bring people together to influence the development of cities in a way that makes them better places for people to live rather than simply efficient or “smart”.
As a pragmatic example, we are increasing engagement with Social Enterprise businesses as a means of resolving our Post-Consumer waste problem.

As a general point, we believe that one of the most significant barriers to achieving the transition to a more sustainable business model is the slow pace of growth in the availability of **Low Carbon Energy via the national grid.** The energy mix is a big factor in making industry more sustainable and as such, can have a distorting effect on the individual performance of a business against its own sustainability targets. A company such as AkzoNobel can see the results of huge effort and investment to reduce its own carbon footprint completely overshadowed by negative changes in the national energy mix. This risks being a disincentive to businesses setting their own challenging targets if success (and in some cases, reward) can be negatively impacted by a measure outside of their control.

This is not just about the energy consumed on our sites but that of our suppliers and further back in the supply chain. **We are now making decisions on suppliers based on their carbon footprint** and this will mean that we will seek to buy raw materials from sources which offer the lowest carbon options, either through suppliers investing on on-site renewables, or from countries which have a low carbon grid. **The UK will miss out** as more and more global companies seek to choose suppliers on this basis **unless the government encourages UK manufacturers to invest in on site renewables and also acts to significantly lower the carbon mix of the UK grid.**

Whilst industry can have some positive impact through on-site generation, the bulk of the progress must come from energy companies feeding into the grid. This process is slowly happening but should be accelerated by **a new and bold national policy to increase the use of renewable or other low-carbon energy sources, with appropriate incentives/penalties for different type of energy. There should also be a broader range of incentives for investment in improved energy efficiency.** We note the recent report entitled ‘Global Apollo’ led by Professor Sir David King, which calls for a programme similar to the level of focus achieved by the US Space Programme, dedicated to making renewable energy cheaper than coal within a decade.[1]

Having touched on some of the broad issues which are key to greater industrial sustainability, we will now focus on one industry-specific area which illustrates well the challenges of transitioning towards a sustainable industrial system: a current project to recapture and remanufacture part-used decorative paint from consumers that would otherwise go into the domestic waste stream.

AkzoNobel UK’s project to remanufacture post-use waste paint

We estimate that approximately 50 million litres of paint remain unused after purchase each year across the UK and the vast majority eventually ends up in the waste stream. Most of this is from the DIY sector. The cost of dealing with this unwanted surplus is very significant and it also represents a waste of valuable resources which could be put to good use.

AkzoNobel has set up a project to try and find a better solution by ensuring that products which are unused by the original purchaser are eventually reused, as intended, for the decoration of buildings, thereby creating a circular economy model from this waste.

[1] BBC News (science & environment) website, 2nd June 2015

The first step in this project is to collect the waste; and this highlights the first major barrier. The waste management infrastructure in the UK is peculiarly fragmented, compared with many other European countries. In order to gain access to this waste paint, we might have to make agreements with each of **433** principal authorities in the UK: **27** county councils, 55 unitary authorities, **32** London boroughs, 36 Metropolitan boroughs, 201 districts, **32** Scottish unitary authorities, **22** Welsh unitary authorities, and 26 Northern Ireland districts[2]. In addition there will be separate national government polices set down by Scotland, Wales and Northern Ireland. In total, these 433 UK authorities control more than 1,000 household waste recycling centres. In addition, there are around 20-30 waste management companies operating across the country with a hugely varied array of contracts and agreements.

The divisions and subdivisions of responsibility become yet more complicated further down the chain: not all of the above authorities are 'Waste Collection Authorities'. There are 376 WCAs in England and Wales who are responsible for collecting waste from nearly 22 million homes and some businesses. The WCA passes on the waste to the 'Waste Disposal Authority' that is tasked with the ultimate treatment and disposal of that waste. In England WCAs are the District Councils and Unitary Authorities.
And then there are the Waste Disposal Authorities (WDA), which were established in the UK following the Environmental Protection Act 1990. WDAs are in charge of the use of funds from Council Tax to facilitate the disposal of municipal waste and must manage waste which is collected by local councils. In the case of Unitary Authorities waste disposal authorities are the same as the waste collection authority. WDAs are responsible for developing and implementing plans to deal with municipal waste. There are also Waste Partnerships, which add yet another layer of complexity.

The number of different operating models and policies involved with UK waste management makes it **impossible to offer consistent advice to consumers on recycling waste paint.** The very large number of contact points and decision-makers within this critical infrastructure makes it extremely difficult for manufacturers to be pro-active in finding a better solution for this waste.
It is our view that key infrastructure management, in this case waste stream management, should be consolidated, at least to the level of a national vision and policy, as is the case in most other European countries. The current totally devolved model and the fragmentation of the waste collection process in the UK makes progress in this area much harder to achieve than in other countries. Standardisation would save costs, reducing the barriers for recycling of some materials and would speed up progress towards a circular economy.

Once we eventually gain access to this waste, we are then confronted with some major regulatory barriers, notably those concerning waste transport, waste management, and hazardous waste management. Whilst the original intent of such legislation is obvious and of unquestionable value, the unintended consequences cause a serious block to moving to a sustainable circular economy model. For example, we cannot collect and 'back haul' waste paint or even the empty containers from either our own stores or those of our customers without each vehicle concerned having a waste carrier's license. As well as being a significant cost, it is almost impossible to administer this process if the vehicles are operated by contractors. As a further example of the inconsistency of the regulations, containers that are transported full of solvent-based material are largely unrestricted, but when empty, they become 'hazardous waste'! This is due to some oddity in material calculation, but results in the requirement for a separate process for two different types of empty paint can.
However, the most serious barriers to using recycled material in new paint manufacture are the restrictions set out in EU regulations concerning the 'Registration, Evaluation, Authorisation & restriction of Chemicals' (REACH).
Again, whilst we are fully supportive of the original intent, this legislation was not originally drawn up with consideration of the use of recycled materials, which by their nature have content which cannot be

[2] Source; Wikipedia June 2015

always comprehensively defined and therefore registered. This barrier is of course not unique to paint and affects very many product types. We understand that some basic product categories (e.g. glass, aggregates) have been allowed exemptions to these regulations. The same exemptions ought to be available to the paint industry. Without such changes, our circular economy model cannot come into being.

It is our view that regulations concerning the handling and transporting of waste and also regarding materials management, such as REACH, are reviewed by the UK government to assist in the recycling of materials. Appropriate derogations ought to be made more easily available for companies trying to operate waste recovery and / or closed loop systems.

As well as regulation, there is also the role of legislation. It is our experience that the UK government approach has been to rely to a considerable extent on the development of 'voluntary agreements' to reduce waste, increase recycling and to embrace the circular economy model. However, it is quite clear that those initiatives that have been most successful have been those driven by legislation, notably WEEE, Batteries, Tyres, Motor Oil etc. This has also been our experience within our own industry, notably in North America, where collaborative industry-originated initiatives have been then backed by enabling legislation to ensure a level playing field for all market participants. We are not in favour of arbitrary legislation predicated solely on cost transference but we do believe that **more thought should be given to achieving the right balance between industry solutions backed by jointly agreed and appropriate legislation and 'voluntary commitments' that leave the effort and investment to industry leaders and reputable businesses whilst others, including importers, simply shirk their responsibilities.**

Our case study on recycled paints also demonstrates that there is no point in the recovery and remanufacture of waste products into new products unless a market exists for them. All of our research indicates that most consumers do not use sustainability performance as a deciding purchase factor for the great majority of our products and will certainly not compromise on price or product performance. Professional and commercial buyers, whilst a little more interested in more sustainable products, will also not compromise on key attributes, including price. Yet is a fact that product recovery costs money, supply chains sourcing recycled material are in many cases some years away from achieving the economies of scale of traditional manufacturing and costly Research and Development may be required to ensure comparable product performance.

We have been fortunate to benefit from funding from InnovateUK to tackle some of these problems, and offer this as proof that with the right funding available and appropriately targeted, businesses are able to explore areas and make progress that otherwise would be difficult to do.

Our experience has been that considerable marketing effort must also be expended to reassure customers before any product is actually sold and for businesses, especially smaller ones, who have invested heavily to produce the product, the time required to create a market for it can make any short term return on investment a very difficult business case to make.

There are several ways that government policy could assist this.

Firstly, government – both national and local – is a major purchaser of goods and services, as are those who act as the key outsource suppliers for national and local government. **An active policy of 'Green Procurement'; that is, to specify and purchase products which deliver demonstrable sustainability benefits, will greatly help in the development of the market in green goods and services. It is clearly understood that this should not be at the expense of product performance or best value, but requires an appreciation that a measure of 'best value' should include environmental performance. Where all factors are equal, there should be an element of 'positive**

discrimination' in favour of materials (or services) that can deliver sustainability benefits. In our industry, this would include government procurement contracts specifying coatings which have a lower carbon footprint, such as those which are water-based or which contain recycled content. We have evidence that the state government of California has, by adopting such a policy, helped generate a growing industry of paint recycling in the state.

Secondly, **the government could do much more to promote consumer awareness and acceptance of more sustainable choices.** For example**,** public education about the circular economy may help gain acceptance that 'recycled' doesn't mean 'low quality'. There is also a potential problem of price perception to be managed, with an all-too-easy assumption that if goods are made from recycled materials, these must have been obtained for free and that therefore the new item should be cheaper than the original. The points made above have outlined that these new supply chains for recycled material are often likely to be much more costly than traditional means and that the cost of recovery means that these materials are certainly not 'free'.

Thirdly, the government plays a major role in creating a public mood for sustainable choices. This is of course subject to the general political climate and the news cycle but discord in public and political debate on environmental issues can only add to the confusion experienced by consumers. For example, it is plausible to suggest that excessively negative political debates about on-shore wind farms, often for short-term tactical political reasons, can have a corrosive effect on the public view of all things sustainable and make marketing products with sustainability propositions that bit harder. The linking of sustainability to long term economic success is also often sadly missing in public debate. The Stern report made this crystal clear and yet too often the choice is portrayed as either a sustainable choice or one that promotes growth, as if they were mutually exclusive. This is highly misleading and colours the debate on sustainable development in this country. **It is our view that government needs to support long-term sustainable business initiatives by maintaining a consistent and generally positive message in the media. This should include seeking cross-party consensus wherever possible and especially an overall agreement on core values.**

Finally, there are two other areas that we believe in the long term, may have a significant impact on our sustainability performance. To deliver solutions, we will need high calibre scientists and the government needs to ensure that a supply of such talented people continues into the future. The science of sustainable industrial production should be seeded and promoted right from the very basics levels of education through to breakthrough teams at leading universities. The UK has a rich tradition in these fields but the incredibly rapid growth of first-class education in the developing world means that we cannot rest on our laurels. We earlier referenced the Apollo space programme and there is firm statistical evidence from the USA of how this programme and its promotion in the media inspired a rapid increase in the number of science graduates. **The government should look to both promote science in general but also to highlight and promote its support for specific science and technology projects linked to sustainability, which can capture the imagination of a new generation.**

Our last point concerns the broadest definition of an 'industrial system'. The UK economy today has an increasing number of social enterprises, charitable and voluntary components. An estimate from the National Council of Voluntary Organisations estimates that their members have a combined turnover in excess of £34bn. The government has repeatedly highlighted the role that the 'third sector' has to play in our economy.

From a manufacturing standpoint, recycling of high value items is self-evidently economically viable, as illustrated by a number of models, including the recapture of rare and expensive metals from electronics.

However, large numbers of items going to waste are much less valuable and also at the mercy of fluctuating commodity prices. Yet they are still resources and they have a carbon footprint. There is

already evidence that some manufacturers, notably textiles, have started to work alongside the 'third sector' in order to find a market for products that cannot be recycled (for either technical or commercial reasons) into a new 'branded' product. AkzoNobel are exploring such models to help use up waste paint that cannot be commercially reprocessed, but there are considerable challenges to be overcome. To name a few examples; how do we work with voluntary organisations in a way that is consistent with our health and safety culture? How do we equitably split costs? How do we avoid any perception that we are exploiting 'cheap labour'? Also, the end product produced by the voluntary groups will not have the advantage of economies of scale of larger manufacturing. How can we keep costs down to keep their output acceptably priced?

We would like the government to do more to promote partnerships between manufacturers and social enterprises, by producing framework policies that assist in avoiding potential unintended liabilities and by making the output of social enterprises more commercially attractive, for example by exempting them from VAT.

In constructing this submission, we have focused on one particular case study but drawn in a number of related issues which we believe to be critical in the move towards a more sustainable model of industry.

In addition to this, our own particular circumstances as the UK operation of a major Dutch-based company have given us some insights into both government policy and the overall business culture in the Netherlands. The Dutch experience provides a sharp contrast with the situation in the UK. **The Netherlands government are clearly trying to position the country as a hot spot for sustainable thinking and our view is that they are quite successful in this regard. The initiatives seem to have a higher profile than any comparable initiative in the UK and this is in turn attracting the intention of business leaders.** Major international corporations such as Unilever and Phillips work closely with the Dutch government on improving the country's sustainability record and maintaining high levels of investment in R&D in this area and it is probable that further industrial investment will be drawn to the Netherlands as a consequence. **If the UK wishes to remain an influential manufacturing base, it should consider how to leverage its powerful research and development base more effectively to meet this challenge.**

We believe that the above submission covers many of the questions in your call for evidence. Appendix 2 is a full list of your questions, with a green indicator where the question that has been fully answered in the narrative and yellow where it has been answered in part. A few have not been considered and are not colour coded.

We are grateful for the opportunity to respond to this inquiry and would be happy to participate in any further discussion or correspondence if required.

Appendix 1


A quick guide to our sustainability strategy
Sustainable business
We're working together with customers and suppliers to develop leading solutions that create more value from fewer resources
20%
of revenue by 2020 from products that are more sustainable for our customers than those of our competitors
REI
(Resource Efficiency Index) A new indicator measuring how efficiently we generate value expressed as gross margin divided by cradle-to-grave carbon footprint
Resource efficiency
We're reducing our environmental footprint across the value chain and increasing our use of renewable materials to create more value from fewer resources
25-30%
more efficient resource and energy use across the entire value chain by 2020 (measured by carbon footprint reduction)
Capable, engaged people
We're developing our employees, positively impacting communities and forming partnerships to create more value from fewer resources
> 4 out of 5
Employee engagement score (2015), as measured by Gallup Q12
< 2.0
Total reportable rate of injuries (2015)
RAW MATERIALS
Sustainable sourcing of raw materials e.g. renewables
For example, using algae-based oil as renewable raw material for hair products
PRODUCTS IN USE
Developing products and solutions with a sustainability benefit for our customers
For example, our antifoulings help to cut carbon and costs for ships
END OF LIFE
Designing products that allow safe and sustainable disposal at the end of the lifecycle
For example, our world's first fully compostable and recyclable coating of paper cups
CARBON EMISSIONS
Incorporating low energy processes and working to reduce our carbon impact across the value chain
For example, our Ashington, UK, site is designed to achieve 40 percent reduction in energy usage
WASTE REDUCTION
Site programs to improve yields and reduce waste and waste water
For example, we are collaborating with our suppliers to reuse packaging wherever we can
WATER MANAGEMENT
Managing water use and discharge in a sustainable way
For example, harvesting water for use in our manufacturing process
EMPLOYEES
Enriching the lives of our employees through health and safety, training and development, diversity and inclusion
For example, our ongoing training for safe behavior in the workplace
PARTNERSHIPS
Long-term partnerships with suppliers, customers and other key stakeholders with mutual benefits
For example, helping local suppliers to develop safe and sustainable work environments
COMMUNITY
Actively participating in communities around the world and creating a positive impact
For example, our community programs are helping to change people's lives
AkzoNobel
More value from fewer resources
It won't be long before the world's population reaches nine billion. How will we cope? Can the planet handle so many people?
Yes it can, but we have to do things differently. We have to use our ambition and imagination and deal more efficiently with the world's limited resources. Which is why we've adopted a Planet Possible approach to sustainability.
By doing radically more with less and working closely with customers and suppliers in our key end-user segments (Buildings and Infrastructure, Transportation, Consumer Goods, Industrial), we can help to make life more affordable, colorful, healthy and comfortable for the world's ever growing population.
Planet Possible
www.akzonobel.com/planetpossible

Appendix 2 - QUESTIONS POSED BY THE CALL FOR EVIDENCE

General Questions:

1) What short- and long-term opportunities are likely to be presented by a transition toward a sustainable industrial system? What barriers currently exist to such a transition taking place?

2) What policies or approaches might be adopted in order to achieve a sustainable industrial sector?

Specific Questions:

3) What barriers currently exist to the wider adoption of more sustainable and resource-efficient production methods, based on current levels of technology?

4) What barriers exist to the development and diffusion of new technology and innovations to make manufacturing more sustainable? How should such innovation be promoted?

5) How does the UK compare internationally in fostering industrial sustainability, and what lessons might the UK learn from the experiences of other countries in transitioning towards a sustainable industrial economy?

6) What threats to the competitiveness of UK manufacturing are likely to arise in transitioning toward a sustainable system, and what measures ought to be used to mitigate these effects?

7) What is your view of a realistic timeframe for shifting to a sustainable industrial system? You may answer with reference to your particular industry, or to the industrial economy as a whole.

8) In promoting a shift towards a more sustainable industrial system, what role should be played by demand-side policies, or measures to change consumer behaviour?

9) What changes in policy or new approaches might better enable manufacturers to engage with system-wide design thinking and creative innovation to foster a more sustainable industrial economy?

10) What role might be played by new business models in delivering industrial sustainability, and what might they look like? What obstacles exist to such models being more broadly utilised?

11) What are the obstacles to implementing existing circular economy recommendations from various organisations,[2] relating to recycling, re-manufacturing, re-use and material recovery?

12) How can the manufacturing sector make better use of other national competencies, such as marketing and finance, to promote industrial sustainability?

13) What wider social or economic implications of a shift toward a sustainable economic system ought to be taken into account by policy-makers?

14) What changes with regards to education and skills training are needed to move towards a sustainable industrial sector?

15) Are there any particular case studies you would like to highlight which touch on any aspect (or combination) of the above?