

WEEE Compliance Fee - Economic Assessment

Client: Valpak Limited

September 2015

Valpak Consulting – Andrew McCaffery, Edward Lowe



Table of Contents

1.	INTRODUCTION	3
1.1	Valpak Consulting	3
1.2	Relevant Experience	3
2.	ECONOMIC METRICS	3
2.1	Economic Efficiency	4
2.2	Market Distortion	4
2.3	Transactional Costs	5
2.4	Barrier to Entry	5
2.5	Transparent and Auditable	6
3.	COMPLIANCE FEE METHODOLOGY	6
3.1	Economic Efficiency Test	7
3.2	Market Distortion Test	7
3.3	Transactional Costs Test	7
3.4	Barrier to Entry Test	8
3.5	Transparency Test	8
4.	COMPARISON WITH 2014 METHOD	8
4.1	Economic Efficiency	9
4.2	Market Distortion	9
4.3	Transactional Costs	9
4.4	Barrier to Entry	9
4.5	Transparency	10
4.6	Worked Examples	10
4.7	Summary	11
5.	CONCLUSIONS	12

1. Introduction

Valpak Consulting, which is a Business Unit of Valpak Scotland Limited, was commissioned by Valpak Limited to undertake an economic assessment of their proposed compliance fee methodology. The compliance fee methodology had been developed by Valpak Limited in response to BIS calls for proposals for the 2015 compliance fee. Unlike the previous year's compliance fee assessment, this year BIS requested economic justification for the methodology submitted. This report sets out the economic justification.

1.1 Valpak Consulting

Valpak Consulting was created in 2006 in response to requests from Valpak's membership and key stakeholders. Since 2013, Valpak Consulting has been based at its Scottish office and operates within Valpak Scotland limited. It is a standalone unit from Valpak Limited and undertakes work for government departments, non-governmental departments and private businesses. It operates in the areas of compliance where it believes it can add value to the research through operational experience.

1.2 Relevant Experience

Valpak Consulting has considerable experience in the area of WEEE. It has undertaken work for the North East Procurement Organisation (NEPO), WRAP, BIS and Zero Waste Scotland in related areas. It has also undertaken economic analyses in the area of producer responsibility for the Government of Macedonia, Zero Waste Scotland, WRAP and private companies. Additionally, it has undertaken due diligence work, including economic assessment, on various other commissioned projects, including developing a battery recycling plant, energy from waste assessments and the purchase of a waste management company. The CV of the report author is given in the appendix.

2. Economic Metrics

The WEEE market prior to the introduction of a Compliance Fee was considered to be displaying the principles of an inelastic market where price increases did not result in an increase of collections. This could mean that compliance schemes, in theory, could make exceptional or inflated profits and pass on unnecessary costs to Producers.

There has been anecdotal evidence that since the Fee has been introduced, the market has become more elastic and schemes are much less likely to be able to make these unnecessarily inflated profits. It is therefore considered that the compliance fee concept has been successful in bringing more normal market conditions to the WEEE market.

Within the WEEE market there are two main drivers on collections dependant on how close the UK is to meeting the national collection target. These two market conditions can cause participants to react differently in the market; therefore, the Compliance Fee should be used slightly differently in each of these situations. These market conditions are:

1. A market where the target is achievable through a relatively small rise in collection within the current infrastructure. Here, the Compliance Fee encourages players in the market to co-operate and avoid inflated profits and unnecessary costs to producers.
2. A market where the target requires a significant investment in infrastructure and is unlikely to be achieved in a single year. In these conditions, achieving compliance should be such that the Compliance Fee encourages that investment but without being unduly punitive; money raised from the Fee can then also be used to fund infrastructure development.

The current market condition is similar to last year in that the target should be achieved by all participants without significant infrastructure development; therefore, the Fee is there to ensure an elastic price and reduced potential for inflated profits by Producer Compliance Schemes (PCSs). Therefore our methodology is designed to address the situation which is described in bullet point 1 above.

In order to assess the Compliance Fee methodology, five metrics were developed. These metrics were designed to ensure that the Compliance Fee produces markets that are **economically efficient**, avoid **market distortion**, reduce **transactional costs** and avoid **barriers to entry**, in addition to being **transparent**. The detail behind the metrics is discussed below.

2.1 Economic Efficiency

Economic efficiency is defined¹ as the maximisation of social welfare. In terms of WEEE collection, the efficient level of collection is one that allows society to derive the largest possible net benefit from the market in terms of social, economic and environmental costs. This condition occurs where the (positive) difference between the total benefits and total costs is the largest. In the absence of externalities and other market failures, this occurs precisely at the intersection of the market demand and supply curves where the marginal benefit equals the marginal cost. To go beyond this marginal cost and benefit would be inefficient. The economic efficiency requires only that net benefits be maximised, *irrespective of to whom those net benefits accrue*. It does not guarantee an “equitable” or “fair” distribution of these surpluses amongst compliance schemes or waste disposal authorities.

In terms of a WEEE Compliance Fee, this means that the Fee should be set to encourage compliance schemes to collect from areas where it is economically efficient to do so and there is a positive net benefit in terms of social, economic and environmental benefits. In areas where the benefits are sub-optimal, or negative, then the Compliance Fee should not be overly punitive as there may be more benefit for Fees to be collected by the Compliance Fee operator and redistributed to the areas in a more beneficial way. An example of this may be to collect Compliance Fees and then invest in bulking facilities in marginal areas so that future collection costs can be reduced and net benefits can be gained.

For the UK to achieve compliance it is important that collections occurring in economically efficient areas are maximised and used to generate evidence, and this evidence is then re-distributed between players at reasonable costs by mutual agreement. Excessive costs would lead to an inefficient market and potentially moving the market towards a monopoly; therefore, the Fee should be set to encourage this process but limit excessive profits from over collection.

2.2 Market Distortion

Market distortion² occurs when a government or other body enters a market to set a price ceiling or price floor. This is often done in order to enhance the benefit to society, but it can also cause market failure. This would occur when government intervention encourages greater levels of inefficiency in the market players and there is a surplus of supply or an inelastic supply, creating demand.

¹ US Environmental Protection Agency Dec 2010 (Update May 2014), Guidelines for Preparing Economic Analysis,

² Deardorffs, A 2014, Deardorffs Glossary of International Economics, University of Michigan,

In order to avoid market failure by the introduction of a Compliance Fee, the Fee must be set to act as a price ceiling at a reasonable level. If the price ceiling is set too high it will encourage continual inefficiencies in the market. It would reward compliance schemes that over collect and demand a higher fee for the evidence because the option of paying the Compliance Fee is too punitive.

2.3 Transactional Costs

Transactional Costs as defined by Coase³ are the costs of participating in the market. These costs will differ between players in the market. A market operating efficiently should have no transactional costs. However as the market is moving towards a greater level of efficiency it should favour those players with lower transactional costs. Evidence for the market behaving in a way to increase transactional costs prior to the introduction of a Compliance Fee, is described below.

WEEE Market Situation

When reviewing Valpak's responses to WEEE collection tender results over the past five years, we can see changes in market dynamics, which may be attributed to the WEEE Recast, the introduction of a target driven approach and the Compliance Fee.

Between 2010 and 2013, Valpak submitted 23 responses for supplying WEEE services to Waste Disposal Authorities (WDAs), of which we were successful in 10. These responses involved significant 'transactional cost' in terms of preparing tenders, developing and managing contracts and operating agreements.

In addition it was clear that market expectations by Local Authorities at the time required further 'transactional cost' such as offering WDAs significant rebates and/or quantifiable added value services. These extra transaction costs could be seen to be creating market inefficiencies, whereby increasingly large financial incentives were required to be offered to secure a contract that previously had been won, or awarded, on ability to deliver the service alone.

In addition, when comparing successful bidders with their collection obligations, it was clear that some schemes would inevitably be over-collecting in streams where they already had a surplus. High transactional costs and a move to an inefficient market was acting as a barrier to entry for smaller schemes and creating an oligopoly market.

One WDA revealed in a feedback session that although they scored 'added value' and financial aspects highly, it was likely that they would not in fact be able to take up some of the additional services offered because they did not have the resource to put to the services offered. This example also highlights the inefficiencies of the tender process: the scheme loses income and the WDA does not benefit.

It therefore proposed that the methodology used for setting the compliance scheme should be such that it acts as an incentive to reduce the transactional costs whilst also encouraging collection. This will reduce inefficiencies in the market and encourage higher levels of competition between players.

2.4 Barrier to Entry

The introduction of a Compliance Fee should not be a barrier to entry for smaller players. It should be seen as fair to all players, irrespective of size. This will encourage competition in the market place.

³ Coase (1937), The Nature of the Firm, *Economia*

If significant barriers to entry are created, the incumbent players can seek to take advantage of the situation by increasing costs and creating market inefficiencies.

2.5 Transparent and Auditable

To create an efficient competitive market, information and costs must be transparent to all⁴. There should not be a situation of asymmetric information where one participant in an economic exchange knows more than the other and has influence over the other's decision. In the case of asymmetric information, this can lead to a misallocation of scarce resources, with consumers paying too much or too little, and firms producing too much or too little. Information failure is common and appears to exist in numerous market exchanges.

It can be argued that markets work best, or are at their most efficient when knowledge is perfect and is evenly shared amongst all the parties in a transaction. Hence, asymmetric knowledge is an economic problem because one party can exploit their greater knowledge.

In the case of a Compliance Fee, this should mean that all players wishing to participate in the Compliance Fee to achieve compliance should share their knowledge of costs and not withhold information. On the contrary, it should be closed to players outside of the Compliance Fee who may withhold information or provide misleading information in order to gain a competitive advantage.

3. Compliance Fee Methodology

The method proposed by Valpak for calculation of the Compliance Fee is:

$$f = (a + s) \times (t - c) \times \left(1 + \frac{5}{3} \times \frac{(t-c)}{T}\right)$$

Where:

f: the Compliance Fee for the relevant stream

a: the weighted average net cost of collection for the stream

s: the standard transactional cost of undertaking physical collections in the market

t: the PCS's target for the stream in tonnes

c: the PCS's collected tonnage in that stream

T: the UK national target tonnage in that stream

Additional methodology conditions are:

1. The linear escalator is capped at 150% for shortfalls that represent above 30% of the UK national target in that stream.
2. PCS wishing fulfil their compliance through a Compliance Fee should pay a joining fee to participate.
3. Only net average cost of PCS that require more than 5% of their target in the stream should have their costs included in the weighted average.

⁴ Economics Online, www.economicsonline.co.uk, access 21st September 2015

This methodology is assessed against the five criteria specified and is described below.

3.1 Economic Efficiency Test

From Valpak's experience of UK WEEE collections, approximately 70 - 80% of collections are in lower cost areas with only 20 -30% of them in the higher cost areas where there is marginal or no social benefit to collecting WEEE in these areas using the current collection methods. By using a cut off of 30% which equates to the high cost areas of the UK national target for the introduction of a cap on the escalator, the method does not excessively penalise PCS' that would otherwise have to collect disproportionately from areas where there is marginal or negative net social benefit. The money collected through the compliance fee could be dispersed to these regions to improve the economics of collection e.g. building bulking facilities in order to reduce the cost of collection and produce a net social benefit.

3.2 Market Distortion Test

By introducing a Compliance Fee there is a danger that market failure may occur by setting the fee too high. PCS which have a shortfall are forced to buy from PCS who have over collected in low cost areas and will hold out until a higher price is agreed therefore creating the same market inefficiencies. It is proposed to avoid this situation by capping the Compliance Fee at 150% of the average weighted costs. The justification for the figure of 150% is that Valpak's estimate, from its own market knowledge, is that collections from its highest cost areas are approximately 150% more expensive than the cheapest cost. Previously PCS that over collect in low cost areas would be incentivised not to co-operate with schemes with shortages, unless they achieved a significantly higher price than the competitive market equilibrium price for the evidence. That would provide potential for super profits for the schemes over collecting and create a market distortion.

3.3 Transactional Costs Test

It is proposed to introduce a £3.50 transactional cost per tonne to the weighted average net costs. The purpose of this is to encourage collections as the first option by ensuring the fee properly represents the actual costs involved. PCS' assume risk in undertaking collections and incur transactional costs by entering the market. These should be represented in the weighted average net costs so that the PCS assuming the collection risk should not be disadvantaged by those not entering the market and opting to pay a Compliance Fee instead.

The £3.50 per tonne costs is based on Valpak's estimate of our actual average costs for submitting tender proposals, establishing supply contracts and associated legal fees, managing collections, auditing sites and reporting performance during 2014. It is set at a rate that is significantly lower than, and does not include, any transactional cost incurred by PCS' in giving material rebates or other incentives, which is an inefficient use of resources. These rebates are specifically excluded from the fee calculation.

3.4 Barrier to Entry Test

In the 2014 methodology, the compliance fee escalator was based on the ratio of the compliance scheme shortfall against its own target tonnage $((t - c)/t)$. This results in larger compliance schemes having a lower compliance fee for the same absolute tonnage compared to a smaller compliance scheme.

The Valpak methodology proposes to make this equal for all compliance schemes, such that each compliance scheme pays the same Compliance Fee for the same absolute tonnage they require. This is done by having the denominator as the total UK target for the WEEE stream and not the compliance scheme's target.

Using this method reduces the barrier to entry for small schemes, and encourages competition between schemes.

3.5 Transparency Test

It is proposed that cost information should only be submitted by PCS' wishing to comply via the Compliance Fee. This approach will remove the issue of PCS' who may look to gain a competitive advantage through supplying incorrect or misleading cost information in order to increase the level of the Fee.

It is also proposed that a participation fee is paid, per material, for those wishing to use the Compliance Fee. The joining fee should be set at a level to discourage PCS' from applying for very small quantities in order simply to gain knowledge of the fee to help them set evidence price and also provide information to influence the Compliance Fee rate. However the joining fee should not be set so prohibitively high that it is a barrier to entry for small players.

To avoid a PCS purchasing small quantities of Compliance Fee in order to have influence over the weighted average net costs, it is proposed that only the net costs of PCS purchasing more than 5% of the target in that stream are considered in the weighted average calculation.

4. Comparison with 2014 Method

The 2014 methodology used for the calculation of a compliance fee is given below, and as a benchmark it is measured against the criteria suggested for the Valpak methodology. The 2014 method was:

$$f = k \times (t - c) \times (1 + (\frac{t-c}{t})^2)$$

f: the fee for the relevant stream

k : is the weighted average net cost of collection for the stream

t: the PCS' target for the stream

c: the amount of the stream of WEEE collected by the PCS in tonnes

4.1 Economic Efficiency

The 2014 method does not maximise economic efficiency because it does not actively discourage over collection from marginal or negative benefit areas. In addition smaller schemes are disproportionately penalised for a shortfall with potential of 200% penalties or the weighted average net costs. This is irrespective of whether or not they are a significant player in assisting the UK as a whole to achieve the target. An example of this would be a PCS with a target of 1 k tonnes failing to collect any of this material would have a compliance escalator of 200%, whereas another compliance scheme with a target of 200k tonnes and failing to collect 100k tonnes of material would only have an escalator of 125%. This would create an inefficient market where smaller players are forced to collect small quantities in remote areas because the Compliance Fee cost is too high. This could potentially lead to smaller players exiting the market leading to oligopolistic competition causing the opportunity for more super profits.

4.2 Market Distortion

The 2014 method has no cap; therefore, in theory, market distortion can occur with the Compliance Fee ceiling being set at 200% of the weighted net average costs. This can have the unwanted effect of schemes that have over collected in low cost areas trading evidence at inflated prices because the ceiling set by the introduction of the Fee is too high.

By having the Compliance Fee escalator as a second order quadratic equation, it penalises at a higher rate where the scheme shortfall is a high proportion of its target. This is disproportionately punitive to smaller schemes.

4.3 Transactional Costs

In the 2014 method, no allowance is made for the normal transactional costs of doing business in the market. All else being equal, this means that when faced with taking obligation or paying the compliance fee at the same price, firms will choose the fee, which is detrimental to achieving a market clearing solution.

As previously stated, there is evidence that the introduction of the 2014 Compliance Fee has reduced the overall transactional costs of PCS's. In particular it has reduced the undesirable costs that have led to inefficiencies, such as the use of added value aspects to win contracts. These additional incentives are often not taken up, are poorly specified and are an inefficient use of resources.

4.4 Barrier to Entry

As the denominator of the 2014 method is set against the PCS' target in that stream, this acts as a barrier to entry for smaller schemes. As an example of this, two PCSs A & B both have a compliance shortfall of 5 tonnes. PCS A has a target tonnage of 10 tonnes and PCS B a target tonnage of 100 tonnes. PCS A will have a compliance escalator fee of 125% and PCS B of 100.25% meaning that PCS A will have greater difficulty in offering competitive prices to members.

4.5 Transparency

The 2014 methodology requires only those participating in the Compliance Fee to submit information on costs and the weighted average net costs are based on this. This method brings transparency to the market. However, there is anecdotal evidence that because the Fee at the lower end of the escalator is low, some compliance schemes are purchasing small quantities of the Fee in order to influence price negotiations. This is a potentially undesirable affect.

4.6 Worked Examples

To illustrate the impact of the proposed fee two model schemes are considered; one small, one large, who have shortfalls against their target in the same WEEE stream. The national target for this stream is assumed to be 100,000t. These are then considered based on the example shortfalls shown in table 1.

Table 1: model schemes & their shortfalls

Scheme	Scheme target (t)	Shortfall (t-c)	
		Example 1 - Fixed	Example 2 - 50% of target
Scheme A (large)	30,000 t	1,000 t	15,000 t
Scheme B (small)	5,000 t	1,000 t	2,500 t

Using the parameters summarised in table 2, these target shortfalls by scheme have been used to calculate a fee under both the proposed 2015 methodology and the successful 2014 methodology, the outcome of which is demonstrated in table 3.

Table 2: parameters for comparison models

Parameter	Value
Assumed weighted average net cost of collection (α)	£50/t
Standard transactional cost (s)	£3.50/t
UK target (T)	100,000 t

Table 3: fee/t produced from a comparison on the 2014 successful methodology and the 2015 propose compliance fee methodology

	Fee/t	
	Successful 2014	Proposed 2015
Scheme A (large) Example 1	£50.06	£54.39
Scheme B (small) Example 1	£52.00	£54.39
Scheme A (large) Example 2	£62.50	£66.88
Scheme B (small) Example 2	£62.50	£55.73

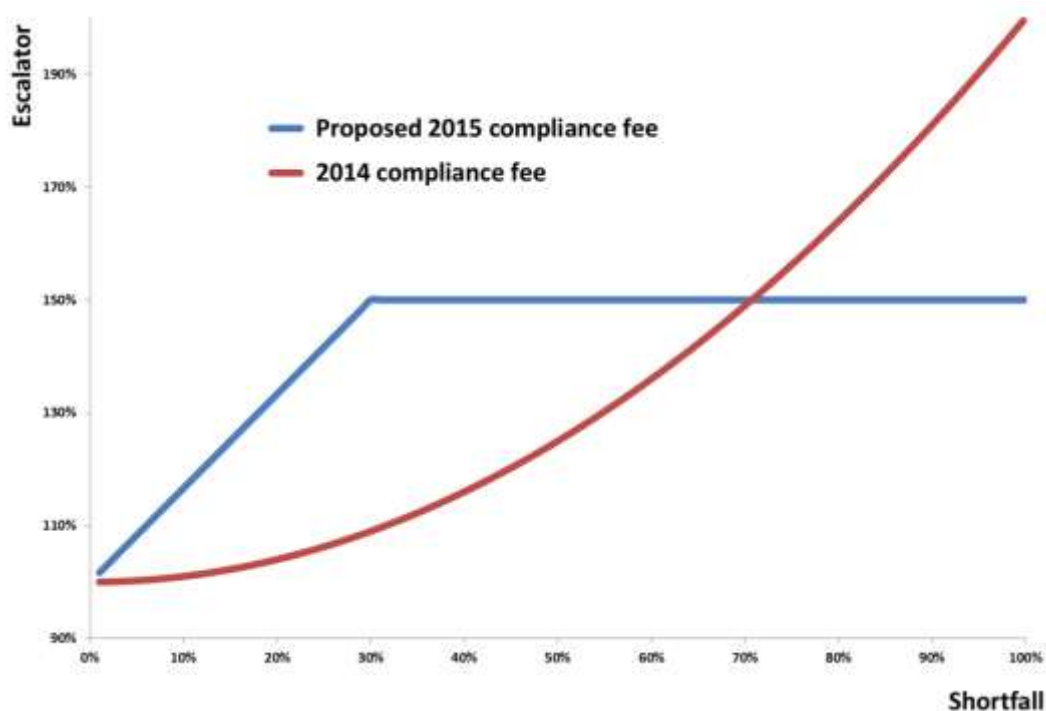
Note: the standard transactional cost is only used in the 2015 calculation.

Example 1 shows that for a 1,000 t shortfall the fee would be higher for both schemes using the proposed 2015 methodology but at an equal level, whereas the 2014 fee would have been higher for the small scheme than the large scheme. We believe that the 2015 methodology better reflects the fact that the potential impact on national achievement is the same for both schemes and therefore the fee should be the same.

Example 2 shows that whereas the 2014 fee would have been identical for both schemes, the proposed 2015 methodology produces a higher fee for the larger scheme and a lower fee for the smaller scheme. We believe that this also correctly reflects the greater potential impact on national achievement caused by the large scheme under collecting by 15,000 t compared to the small scheme under collecting by 2,500 t.

4.7 Summary

The graph below gives a visual representation of the difference in the compliance escalators. As can be seen the proposed methodology is linear to a cap of 150% for PCS's wishing to obtain greater than 30% of the UK national target in that stream. A first order was chosen over a second order quadratic equation because by using the national target in the dominator using a second order equation would result in the escalator increasing too slowly.



Note: the 2015 escalator is based on scheme shortfall as a proportion of total national target whereas the 2014 fee escalator was based on scheme shortfall against scheme target.

The table below summarises the two methods

Metric	Proposed 2015 Methodology	2014 Methodology
Economic Efficiency	Incentivises more efficient use of resources.	Has improved market efficiency but high escalator costs encourage collections in marginal net benefit areas
Market Distortion	Reduces the ceiling for Compliance Fee to prevent over collection in low cost areas by PCS'	Ceiling for Compliance Fee set too high, which encourages over collection and super profits for those trading evidence
Transactional Costs	Introduces a transactional fee to encourage and properly represent real costs of collection	Has reduced inefficient transactional costs
Barrier to Entry	Compliance Fee costs are based on tonnage required rather than size of PCS	Has introduced a cost differential between large and small schemes in favour of larger schemes
Transparency	Is transparent to the market	Is transparent to the market

5. Conclusions

The following conclusions can be drawn from this assessment of the proposed methodology:

1. The proposed methodology will encourage a greater level of competition between players.

As the escalator is based in the national target in that stream rather than the schemes target this will result in equal costs for small and large schemes. This prevents barriers to entry for small schemes and will result in more competition in the market.

2. The collection of WEEE will be encouraged through this proposal.

As the proposed methodology has a non-zero starting point through the inclusion of a transactional fee and a participation fee. A linear escalator will increase costs of the Compliance Fee against collection, for all quantities of Compliance Fee required up to a maximum of 50% escalator. This will encourage schemes to collect material as their preferred method of compliance.

3. The proposal will discourage schemes from unnecessarily over collecting purely with a view to making inflated profits, and result in positive net social benefits

The introduction of a 150% cap on the Compliance Fee should ensure that only collections that have a net social benefit occur. Where collection costs are above this PCS would use the Compliance Fee to achieve compliance. The fee collected should be used to improve the cost effectiveness of collecting from these areas.

Appendix - CVs

Andrew McCaffery, Director of Consulting

Profile

Andrew is a Director of Valpak and heads up the Consulting group of the company. He has over 25 years of experience working in the environmental sector combined with expertise in developing business strategy. He has an upper class honours degree in Physics and a MBA from Strathclyde Graduate Business School specialising in scenario planning and strategic marketing. He is a fully qualified Life Cycle Assessment practitioner, which was achieved at Bath University

Andrew brings 15 years of experience in waste, packaging, textiles and sustainability development related consultancy, including working with major brands such as Mars, Nestle, Akzo Nobels, Coca-Cola Enterprises, Sainsburys and Tesco, as well as Defra, WRAP and local authorities. Key issues Andrew has advised on include Corporate Social Responsibility, sustainability strategies, regulatory impact assessments and macro material flows.

Consultancy Expertise

- Extensive experience in undertaking macro assessments of the flows of packaging materials throughout the UK
- Corporate and sectoral development of sustainable development strategies through scenario planning techniques
- Group support in decision making through facilitated use of multi-criteria decision support tools
- Economic modelling and additionality created through efficient resource use
- Carbon footprinting and life cycle assessment analysis

Sectoral Expertise

- Packaging, Textiles, WEEE & battery regulations
- Retail supply chain
- Plastic and glass packaging supply chain / flow
- LCA and carbon footprints
- Waste management and associated environmental impacts
- Mapping of packaging materials, trends and markets

Recent Projects

Project Director, Plastic Market Update 2014, WRAP/Valpak (2012/13)

Investigating consumption and associated compliance implications of plastic packaging in the UK

Project Director, Non-Clothing Textiles Environmental Hotspots, WRAP (2013/14)

Assessing the environmental hotspots for the non-clothing and shoes sector using the SCAP tool.

Project Director Scottish PRN Feasibility Study, ZWS (2014)

Assessing the feasibility of amending the UK PRN system to the specifics of a Scottish market

Project Director, SCAP Clothing Signatories, WRAP (2014)

Encouraging key companies to sign up to the SCAP agreement and also teaching signatories how to use the tool and submit their data.

Project Director, Home Furnishing LCA, Trendsetter (2013/14)

Assessing the environmental impacts of home furnishing products and recommending areas of improvement.

Project Director, Toy Waste Flow Europe, European Toy Industry (2014/15)

Understanding the flow of toys being disposed of through a residual waste stream throughout Europe

Career History

2009- date

2007 – 2009

2002 – 2007

1999 – 2002

1987 – 1999

- Director of Consultant, Valpak
- Manager of Consulting, Valpak
- Senior Account Manager, Valpak
- Consultant, Optimat
- Senior Scientific Officer, Health Protection Agency

Qualifications & Credentials

- 2:1 Honours Degree, Physics BSc, Glasgow University, 1986
- MBA, Strathclyde Graduate Business School, 1999
- Postgraduate Diploma in Radiological Assessment and Protection 1995
- Certificate in Life Cycle Assessment, University of Bath, 2007
- Statistical Analysis Training, Glasgow University, 2012

Edward Lowe, Researcher	
Profile Edward is a recent Economics & Management graduate from the University of Oxford. He has a keen interest in Microeconomics, Quantitative Economics and Marketing.	
Education University of Oxford – 2.i Honours Degree, BA Economics & Management. Studied Microeconomics, Macroeconomics, Quantitative Economics, British Economic History, Organisational Behaviour, Strategic Management, Marketing and Accounting. Alcester Grammar School – 4 A Levels: History (A*), English Literature (A*), Economics (A) and Maths (A). 11 GCSEs: 8 A*'s and 3 A's.	
Career History 2015 - Present 2014	<ul style="list-style-type: none"> • <i>Valpak Ltd - Marketing Administrator</i> • <i>PwC - Management Consulting Summer Internship</i>
Extra-Curricular Activities <ul style="list-style-type: none"> • Cherwell Student Newspaper Sports Editor • Oxford Surf Club Treasurer • Author – CTFC The Recent Years Book 	
Additional Qualifications <ul style="list-style-type: none"> • CiMA Business Simulation Qualification • FutureLearn course in partnership with the University of Aberdeen – Africa: Sustainable Development for All? 	