environmental
services
association

# Environmental Services Association (ESA)

# ANNUAL REPORT 2022

# THE ESA IN NUMBERS

The Environmental Services Association has **69 full members** and **39 associate members.**

Combined, we estimate that **our full members have an annual turnover of more than £8bn** in the United Kingdom.

Our members directly employ in excess of **44,000 people** - well over a third of the entire sector in the UK.

Between them, our larger members alone operate **more than 100** local authority collection contracts across the UK.

Our members serve well in excess of **300,000 private business customers and more than 17 million people** in households across the UK on behalf of their local authority partners.

Combined, our members collect or process **tens of millions of tonnes of waste material** every year, of which a significant proportion is recycled.

We estimate that, combined, our members deliver services from more than **1,500** operational and regulated locations across the UK.

Our members have invested **£5 billion** in circular economy infrastructure in the UK over the last decade and plan to invest a further **£10 billion** over the next decade.

Collectively, our members divert well **over 10 million tonnes** of material from landfill each year and use waste to generate energy instead, producing **over 5TWh of low-carbon electricity** each year or enough to **power 1.5 million average UK homes.**

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# CHAIRMAN'S FOREWORD

**Gavin Graveson**
Chairman of the Environmental Services Association (ESA)

If a week is a long time in politics, then a year is an eternity, and 2022 saw no less than three Prime Ministers, four Chancellors, three Defra Secretaries of State, and four Resources and Waste ministers; such was the degree of turmoil at Westminster.

This political upheaval has undoubtedly contributed to the further delay of Defra's long-awaited Resources and Waste Strategy (RWS) reforms, which will eventually shape our sector over the next ten years and beyond.

Although half a decade has passed since their announcement, this vital interlocking package of reforms still has the support of the ESA and many organisations operating across the circular economy. We continue to work with Defra and other stakeholders to ensure that RWS delivers on its ambitions without unintended consequences.

However, 2023 must now be the year that these complex policy instruments come together in their final form so that we can help deliver their implementation. We believe the RWS will drive major investment in new infrastructure whilst improving recycling performance and contributing towards the UK's climate change targets and obligations. It, therefore, offers multiple positive outcomes, with minimal impact on the consumer if executed efficiently.

ESA members remain on the decarbonisation journey set out in the ESA *Net-Zero roadmap*, published in 2021, and we present our first steps towards consolidated carbon reporting among the ESA membership in this Annual Report.

Work continues at the policy level to develop a supportive environment for Energy-from-Waste (EfW) district heat networks and zero-carbon fuel sources for plants and vehicles. Discussions are also ongoing on Carbon Capture Usage and Storage (CCUS), the treatment of EfW within the Emissions Trading Scheme (ETS) and the Electricity Generator Levy (introduced on 1 January, 2023).

ESA members will invest extensively in UK infrastructure over the next decade as a result of the aforementioned policy drivers, but this must be protected and supported by a robust, well-resourced, regulatory regime. The Environment Agency's (EA) outgoing CEO, Sir James Bevan, joined me in speaking at an ESA webinar, *Cracking down on Waste Crime*, in April 2022 where it was acknowledged that the agency suffered from a lack of enforcement resources.

Unfortunately, nearly a year later, this picture has not changed. This performance is also mirrored in the EA's permitting system, where a lack of capacity in this vital function is severely hindering essential infrastructure projects and constraining the ability of ESA members to operate effectively and efficiently.

A new Chairman and CEO arrive at the Environment Agency in 2023 and it is essential that they address the performance failures in its core functions. The ESA and its members remain supportive, and we would like to work with the agency to find pragmatic solutions to these problems, while also supporting the Joint Unit for Waste Crime (JUWC) wherever possible. However, the time for improvement is now, and the promise of being effective in eliminating waste crime from the sector must become a reality.

In 2022, ESA members convened to review, update, and agree on the organisation's strategic priorities, which are set out in this Annual Report. These priorities will drive the ESA's work programme over the next two years, and I would like to thank the ESA team and members of the various working groups for their hard work and contributions in 2022.

I'm proud of the ESA, and the work we are doing and believe the organisation has continued to build its impact within the sector and developed a stronger voice this year to the benefit of members, the wider sector, and policy-makers.

# EXECUTIVE DIRECTOR OVERVIEW

**Jacob Hayler**
Executive Director of the Environmental Services Association (ESA)

The ESA and its members had the opportunity to come together in May 2022 to review and set our strategic priorities for the remainder of 2022 and beyond. Going forward, our four priorities, in order, are to pursue ever higher standards; to make up-stream interventions to design out waste; to deliver greater recycling performance; and to decarbonise the sector. These four priorities will guide the ESA's work programme and are reflected in the structure of this Annual Report.

As part of this strategy review process, we conducted an independent stakeholder survey to establish how our peers and stakeholders viewed the organisation and I am proud that the ESA is considered a professional, credible and knowledgeable organisation with a strong voice. We very much value the relationships we have with our stakeholders and counterparts working across both policy development and the wider economic value chain, and continuing to work together will be of huge importance as we navigate our way through the challenges of implementing Defra's Resources and Waste Strategy (RWS) reforms in 2023 and beyond.

With lingering uncertainty over these reforms, operators across the industry have had little choice but to exercise caution over major investment and strategic decisions during the past five years. As the pertinent details about the reforms now begin to emerge from Defra, timescales to implement the infrastructure changes needed to deliver the RWS in practice have become quite challenging.

As an example, an ESA member survey conducted in 2022 found that changes to Material Recycling Facilities (MRFs) necessary to meet the requirements of the RWS range from minor upgrades to total re-builds and that some individual facilities could be closed for up to a year during this process – with the full upgrade programme taking up to five years to complete with commissioning. Producers obligated under the new Extended Producer Responsibility (EPR) regime are expected to start reporting in 2023 for implementation from 2024, when the Deposit Return Scheme (DRS) will also be introduced, but if the infrastructure does not exist to support the regime it will be hamstrung from the outset.

As our chairman mentioned in his foreword, protecting these infrastructure investments by clamping down on criminality in the waste sector is essential and we have continued to make the case for stronger enforcement and improved permitting throughout 2022, both through reform of the waste Carriers, Brokers and Dealers registration regime (the outcomes of which we expect in 2023) and through direct work with both the Environment Agency and Joint Unit for Waste Crime. Additionally, this has been a key area of national media engagement for the ESA throughout 2022 and we have worked with several national media outlets, including the BBC, to build their understanding of the issue of waste-related criminality.

On the regulatory side of things, ESA has continued to work closely with the EA to ensure new regulations, such as the treatment of waste domestic seating containing POPs, deliver the intended environmental outcomes while also allowing for pragmatic and viable implementation.

In this Annual Report, we have published the first set of consolidated carbon reporting among the ESA membership so we can start to assess performance against our net-zero strategy. These are first steps towards building an accurate long-term picture of our members' combined greenhouse gas (GHG) emissions, which will enable the ESA to track progress against its own sectoral target to reach net-zero by 2040.

Decarbonising residual waste treatment is an important component of our Net Zero strategy and in 2023, we will be pushing for clearer guidance on sampling protocols, waste composition targets and how EFWs will be treated under the Emissions Trading Scheme – while ensuring that the Electricity Generator Levy enables our members to make their contribution while also making sure that there is enough for reinvestment into district heat networks, efficiency improvements and CCUS.

Sadly, greenhouse gas emissions are just one component of the ecological crisis facing the world today, which is why, in 2022, the ESA also sought to explore the potential for our members to contribute towards biodiversity net gain and the role we might play in reversing rapid biodiversity loss. Members of our Biodiversity Working Group compiled and published a Biodiversity Best Practice Guide for the sector and we will look to use this as a stepping stone to developing meaningful reporting and performance metrics in this important area in 2023 and beyond.

Raising operational standards and supporting a clear quality distinction for ESA members within the market is our top strategic priority and, while we will remain in pursuit of a zero-harm sector in perpetuity, I am pleased to see that our members continue to significantly out-perform the sectoral average on health and safety performance metrics and that the results of our health and safety culture survey were overwhelmingly positive.

Over the course of 2023, in line with our strategic priorities to influence upstream interventions and to deliver more recycling, our policy work must continue to prioritise the "Four Rs" to reduce, reuse, repair and recycle and we look forward to working with various stakeholders across the value chain to explore research opportunities around re-use in particular, as well as emerging problematic material streams such as nitrous oxide canisters, batteries and disposable vapes.

I would like to thank all our members for their continued participation in ESA reports, policy outputs and research, which contributes significantly to the strength of the organisation and the evidence we need to support effective policy creation and delivery, and I and the wider ESA team look forward to continuing this in 2023.

# OUR STRATEGIC PRIORITIES

In May 2022, the Environmental Services Association held a members' Strategy Day to review, discuss and agree the ESA's strategic priorities. Following analysis of feedback from our members and stakeholders during the day, the ESA and its members want to see a world where resource pressures on the environment have been eliminated and all resource use is sustainable.

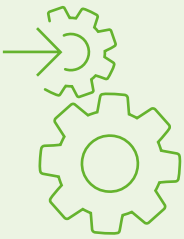
We must build a circular economy whereby we maximise the use and value from all materials already extracted and in circulation, while the development of new resources is always done in a sustainable manner which leaves no lasting footprint on the environment of the future. Secondary resources should always be prioritised over primary commodities and recycled sources provide the backbone of our material use of the future.

ESA represents the practitioners who will deliver a circular economy in the United Kingdom. There are many different actors and organisations involved in circular economy policy, but ESA members will invest in, and operate, the services and facilities that will make the circular economy a reality.

**Our purpose is** *delivering a circular economy*

**Our strategic priorities are** *higher standards; upstream interventions; more recycling and less carbon*

The strategic priorities which follow will guide the ESA's activity and focus its resources where they can make a positive difference.

| PRIORITY | DESCRIPTION |
|---|---|
| **1. Higher standards**  | We will drive higher standards across our own activities - becoming nature and climate positive – protecting the environment, the workforce and maximising value for our customers. |
| **2. Upstream interventions**  | We will influence upstream interventions to design out waste. Our sector has little control over its supply chain and must manage and treat the materials which end up in the waste stream. We will collaborate with producers and policy makers to design waste out of the system and make things as simple as possible for consumers to do the right thing. By working together at the top of the waste hierarchy we can make the biggest environmental savings. |
| **3. More recycling**  | We will maximise the value extraction from resources already in circulation, leading to more recycling as we maximise material recovery and extract energy from non-recyclable waste. |
| **4. Less carbon**   | We will drive down our carbon footprint, meeting net zero across all our activities by 2040. Our approach to produce less carbon will save the equivalent of 8% of UK emissions and will open up future opportunities to be climate positive. We will strive to be both climate positive and nature positive through actions to restore, protect and enhance biodiversity. |

# Stakeholder survey

As part of the strategy review process, the ESA's Communications Strategy Group (CSG) commissioned a Stakeholder Perception Survey to obtain qualitative feedback about how the ESA's key stakeholders view the ESA's role, culture, messaging, people and their relationship with the organisation.

A total of 26 individual contacts representing 24 different organisations were approached in April 2022 – ranging from Government departments and regulators to local authority representative bodies, other trade associations, media editors and the devolved administrations. Each was invited to participate in a 30-minute one-to-one confidential interview with an independent researcher.

Each of the interviews was conducted in a semi-scripted manner covering several core categories:

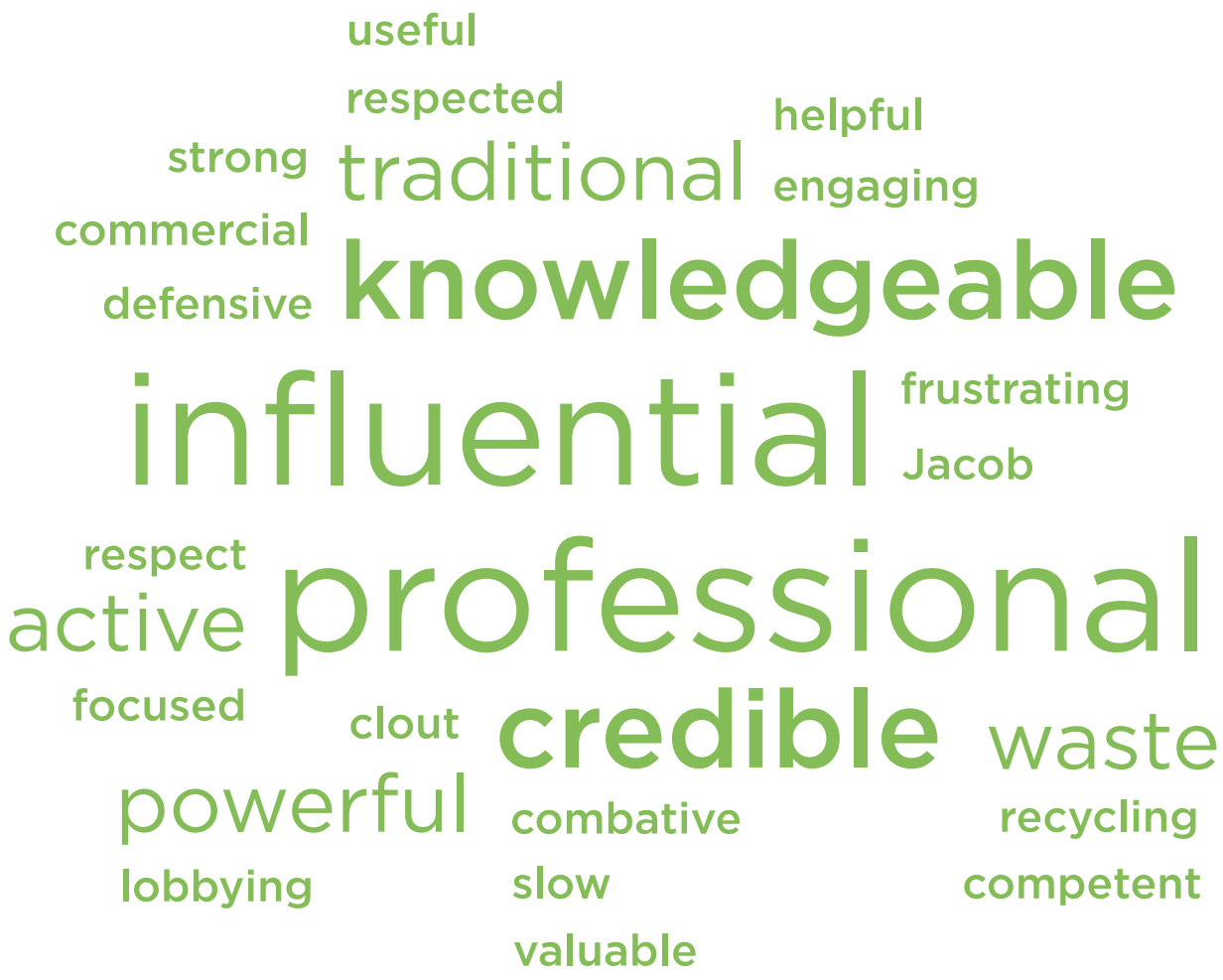
- General perception
- Relationship with the ESA
- Visibility within the industry
- Credibility and trust
- Culture
- Standards
- Brand

The scripted interviews asked respondents what words they most associated with the ESA or would use to describe the ESA, and these responses initiated further questions about why they chose those words. The word cloud below provides a visualisation of the words used by respondents – with the size of the word representing the frequency with which it was used.

Analysis of the feedback suggests that the ESA is viewed as a professional, credible and knowledgeable organisation that is respected by its peers and stakeholders – who regard the ESA as being well-networked and having a strong and powerful voice, particularly enabled by the market and operational presence of its largest members.

Some stakeholders found the ESA to be "combative" or "frustrating" at times, but this was driven by occasional divergence of views between organisations and respondents caveated that they did not consider this to be a weakness of the ESA and stressed that these instances did not affect the quality of relationship.

The ESA and its members were reassured by the results of the survey and will continue to develop these positive stakeholder relationships, while remaining self-aware about how the organisation and its officers are perceived.



# 1. HIGHER STANDARDS

## Health and safety

### Health and safety programme 2022-2023

In 2020, ESA's Board approved a revised ESA H&S Strategy and a new organisational H&S structure to help deliver the strategy and better equip ESA to embrace a more holistic approach towards improved H&S performance.

In 2022, the ESA's Health and Safety Strategy Group developed a new work programme covering an 18-month period from 2022 into 2023. This work programme will contribute towards meeting the ESA's longer-term objective to reduce the number of days lost as a result of injury by 25 per cent by 2025 from a baseline of 2020. To deliver this programme, six working groups were created, each focused on a key risk area summarised in the programme on the following page.

## Health and safety working groups

### 1 Strategic performance monitoring

- Develop a climate survey tool to establish an industry safety-culture baseline.
- Develop a set of leading indicators to help ESA members monitor H&S performance – with an initial focus in Q1 2021 on roll out of "days-lost" as a new injury reporting measure.

*Project lead:* GRUNDON

### 2 Creating a risk assessment approach

- Create tools and resources to help embed a risk assessment approach into company operations, better enabling site managers to proactively identify risk and control measures, and communicate such with those engaged in relevant activities.
- Develop guidance and standards for undertaking both activity and process risk assessments – working with digital system providers to support this approach.

*Project lead:* VEOLIA

### 3 Improved H&S competence

- Review existing data and current practice to help produce a strategic plan for improved competence.
- Develop common H&S competence standards for supervisors; H&S induction; and contractor control, with associated training materials and assurance or certification requirements.

*Project lead:* Viridor

### 4 Waste collections

- Deliver a campaign to raise awareness of the circumstances which lead to incidents of manual handling and slips, trips and falls.
- Develop learning and induction tools to reduce manual handling risks and slips, trips and falls during waste collection activities – with an emphasis on situational awareness.

*Project lead:* SUEZ

### 5 Vehicle & pedestrian interface

- Identify human factors involved in past incidents and develop new control measures to prevent accidents – helping to improve understanding of risks associated with pedestrians around vehicles.
- Develop a risk assessment template; checklist and suggestions for technical aids to help reduce risks of the vehicle/pedestrian interface.

*Project lead:* Biffa

### 6 Occupational health monitoring

- Identify the hazards posed to operations from bio-aerosols.
- Assess the risks posed by bio-aerosols to the workforce.
- Manage and control the risk of exposure to bio-aerosol in the workplace.

*Project lead:* FCC Environment

### 7 Mental health

- Understand the extent and impact of mental health issues within the waste management industry and identify best practice in other sectors to promote good mental health.
- Develop tools to support efforts to address and raise awareness of mental health, with an initial focus on coping with the impacts of COVID-19.

*Project lead:* esa environmental services association

## Programme update 2022

The Health and Safety Climate Survey was completed in 2022 and more detail is provided on the outcomes of this work later in this report section.

Additionally, in 2022, the ESA published a series of videos and supporting collateral related to situational awareness, which highlight and promote situational awareness in the face of common risks for the sector. The Situational Awareness Working Group is currently working on a second tranche of collateral related to a new set of risks due for publication in 2023.

Furthermore, in 2022, the ESA published mental health guidance which is primarily aimed at managers, highlighting their role in supporting the mental health and wellbeing of their people and providing them with advice and resources to help embed a positive mental health culture within the organisation.

While decisions on planning for and integrating mental health into the organisation might not be in a manager's gift, this guidance also aims to offer the tools and suggestions needed in starting a conversation with senior management in leveraging their support and buy-in.

The Process Safety, Bioaerosols, Vehicle and People Safety and Vehicle Specification working groups are all currently developing outputs due for release in 2023.

## Health and safety performance

The ESA monitors annual health and safety performance across our membership and this data can be used to compare our members' performance with data published by the Health and Safety Executive (HSE) for the sector, and all-industry, as a whole.

The most recent **HSE data set**, published in 2022 for the period 2021/22, suggests that the RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) rate for the sector as a whole is 1303 (per 100,000 employees) which is broadly consistent with the previous year (1337). By comparison, the RIDDOR rate of ESA members for the same period was 685 which, although higher than the previous year (462 per 100,000 employees) remains significantly lower than the sectoral average.

Based on a three-year average, ESA's RIDDOR rate is 570 compared to 1385 reported by HSE for the sector as a whole.

ESA aims to ensure that higher recycling rates are matched with high standards in health and safety. Since the launch of our Accident Reduction Charter in 2004 we have reduced injuries by 85% and have achieved an injury rate consistently below that reported by HSE for the waste sector as a whole.

## Health and safety culture survey results

In accordance with the 2022/23 H&S work programme above, one of the key outputs was to undertake a sectoral Health and Safety Climate Survey to assess individuals' perception of their employers' approach to Health and Safety issues and the prevailing "culture" in this respect.

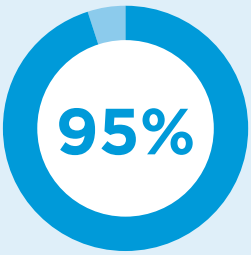
The ESA commissioned an independent survey which was conducted over the

summer in 2022. The survey comprised nine questions and covered maters such as whether people feel safe at work or feel confident that incidents are reported and investigated.

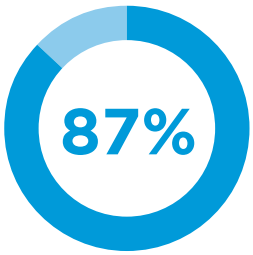
The survey received **1634 responses** from a diverse range of organisations across the waste industry, and this was considered to be a statistically-significant response rate for a voluntary, opt-in survey of this type. The results are presented below and the majority of responses are positive about the industry's approach to H&S, with 95% of respondents agreeing that they felt able to raise H&S concerns if they had any, while most (86%) agreed that they felt safe working in the waste industry.

## Summary results (% agree)

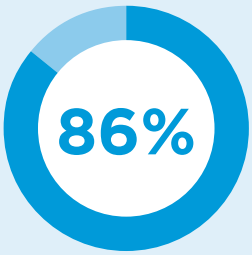
The charts below show the proportion of respondents who agreed with each of the nine statements about working in the waste industry, ranked from highest level of agreement to lowest.



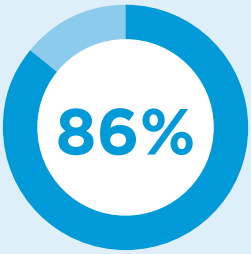

I would be happy to raise safety concerns if I had any



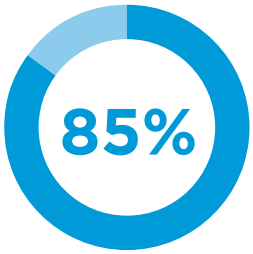

Training in the waste industry allows work to be undertaken safely



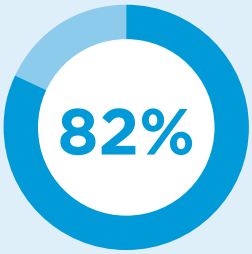

I feel safe working in the waste industry



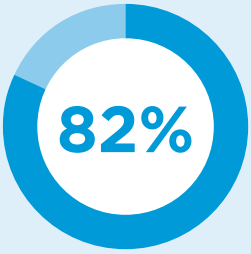

Safety is improving in the waste industry



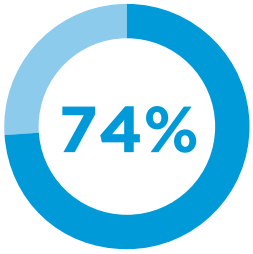

I am confident that any safety incidents would be reported and investigated



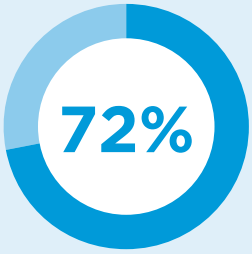

The equipment provided to workers in the waste industry is suitable and fit for purpose




I receive useful information about safety in the waste industry




The welfare facilities (toilets, canteens etc.) are clean




Mental health is promoted in the waste industry as well as physical health

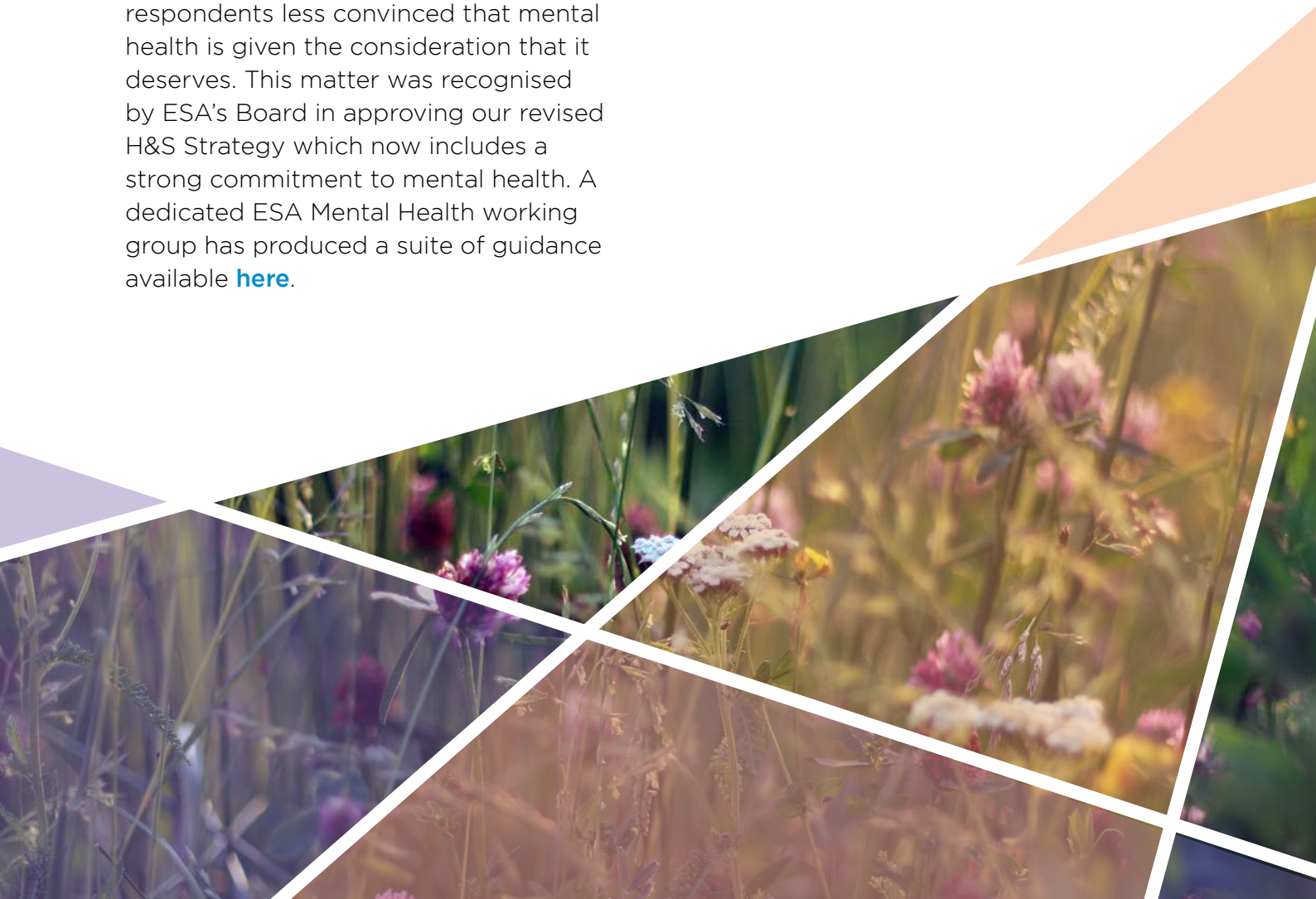
A positive H&S culture in the workplace should allow for questions around H&S to form part of everyday work conversations. It is therefore encouraging that, of all the statements posed in the survey, the ability to raise H&S concerns ranked highest (95% agreed) and there was also strong consensus that safety is improving in the waste industry (88% agreed).

There was strong agreement that H&S training is adequate; that work equipment is fit for purpose; and that the reporting of H&S incidents is taken seriously and investigated. This perhaps points to signs of a maturing industry, with an ability to share best practice and work collaboratively to raise industry standards through organisations like ESA and **WISH (Waste Industry Safety & Health Forum).**

However, the survey did reveal a couple of areas in need of attention, with respondents less convinced that mental health is given the consideration that it deserves. This matter was recognised by ESA's Board in approving our revised H&S Strategy which now includes a strong commitment to mental health. A dedicated ESA Mental Health working group has produced a suite of guidance available **here**.

The survey also identified welfare facilities as another potential area of improvement, with only 74% agreeing that these were adequate. This is likely an area that would benefit from a targeted waste sector promotional campaign to raise awareness of obligations in the provision of welfare facilities and the importance of these in maintaining health and hygiene in the workplace.

H&S culture is known to play a key role in reducing injuries and therefore ESA intends to repeat this survey biennially to help keep track of progress. The ESA published the full findings and subsequent recommendations in a **short report** released in November 2022.



# Operational standards

## Supporting Biodiversity and Social Value

In addition to preserving resources and tackling climate change, the resources and waste management sector also has an important role to play in promoting and protecting biodiversity both at home and abroad, although the ability to measure and fully understand our contribution to this important area, particularly as part of a global economy, is less developed than it is for our sector's other environmental roles.

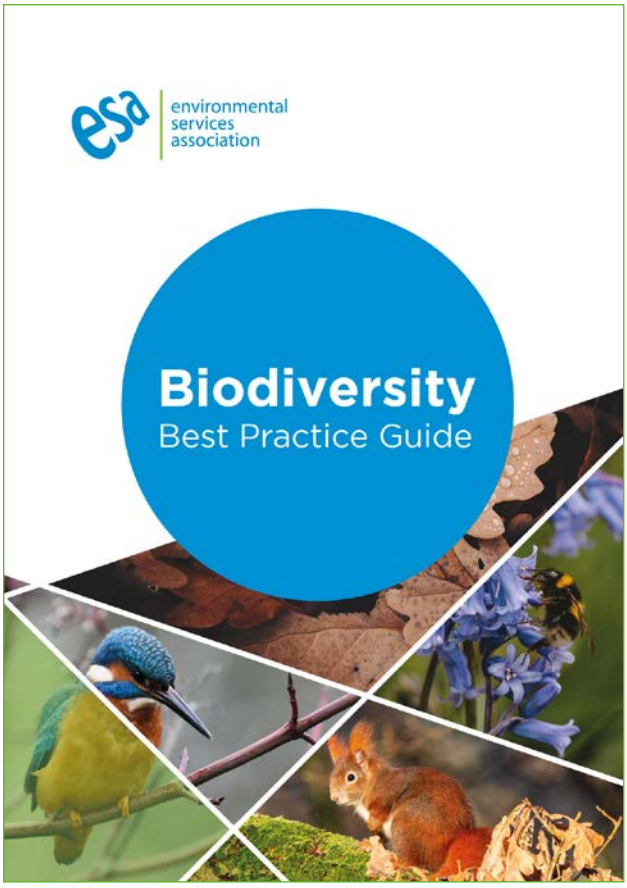
In September 2021, the ESA established a Biodiversity Working Group to promote the industry's contribution towards protecting, restoring and enhancing biodiversity as well as to develop best practice standards for the sector while exploring and quantifying the industry's current and potential positive impacts on biodiversity.

Promoting the sectoral opportunities to take nature positive actions is an important function of the group and, in 2021, the group gathered together case studies from ESA member companies to share for inclusion in Defra's Council for Sustainable Business's *'Nature Positive Handbook'* which showcases some of the positive initiatives being undertaken to enhance biodiversity across the industry.

Building on this, in 2022, the group produced a **Biodiversity Best Practice Guide,** which was published in December 2022 and launched via a webinar event to coincide with the closing of the UN Biodiversity Conference (COP15). The ESA and its members hope the guide will assist operators across our sector in identifying appropriate nature-positive actions and measure the biodiversity impacts of their activities.

Looking at wider impacts of resources and waste management operations, *Social Value* is an increasingly valuable way to understand, measure and respond to the impact made through a project, service, or organisation on its stakeholders, people, communities, the planet and both the local and national economy.

Through 2022, the ESA's Social Value Working Group has developed a framework to help ESA members and procurement decision-makers embed social value into procurement or contract management, through focusing on the core areas where the sector can make the most significant contribution to the many social, environmental and economic challenges facing society. The ESA intends to launch this work in March 2023.



# Tackling modern-day Slavery

Modern slavery is a horrific crime which can devastate lives and families. Unfortunately, the resources and waste sector has historically been a target for criminals engaging in this activity. In recognition of this, the ESA has set clear standards for its members and these are enshrined within the organisation's code of conduct for modern day slavery avoidance.

Additionally, in 2021, the ESA partnered with the Chartered Institution of Wastes Management (CIWM) to make a **joint commitment**, working together to reinforce standards and compliance, to raise awareness and develop best practice, to share intelligence and to support our combined members develop proactive anti-slavery strategies. As part of this commitment, the ESA agrees to:

- Ensure compliance with the Modern Slavery Act 2015 across all their operations and embed related requirements in their respective Codes of Conduct for members.

  (CIWM Group Policy Statement on Compliance with the Modern Slavery Act 2015)

  (ESA Code of Conduct: Modern Slavery Avoidance)

- Collaborate with charities and other sector bodies and stakeholders to raise awareness and develop and share best practice in fighting modern slavery.

- Share intelligence with other organisations and regulators to help stamp out modern slavery where it arises.

- Work together to provide guidance and sign-posting support to help members and the sector to develop proactive anti-slavery strategies.

- Work together to assess what training would be helpful for respective members

In October 2022, the ESA worked with the Indirect Procurement Human Rights Forum as a member of its Waste and & Recycling Working Group, to produce the new **Waste & Recycling Modern Slavery Protocol.** This is a voluntary agreement and public pledge of commitment to work collaboratively to tackle modern slavery and prevent exploitation or abuse of workers. This was formally launched during a webinar held on Anti-Slavery Day (18th October) to raise awareness, at which ESA's Executive Director discussed the importance of collaborative action against modern slavery in the sector, and encouraged the audience and ESA members to sign and commit to the pledges outlined within the Protocol.

In 2021, ESA contributed to an IPHR **Modern Slavery Toolkit** which is aimed at business to provide them with a best practice guide on how to address the risks of modern slavery within the waste & recycling industry and supply chain.

ESA members are already undertaking significant proactive efforts within their individual organisations to combat modern slavery but the ESA urges all members to read and act upon the commitments, advice and guidance contained within the aforementioned documents as a minimum.

# Equality, Diversity and Inclusion

A survey for Policy Exchange identified that the environment and sustainability sector is the second least diverse out of 202 professions in the UK. ESA recognises the important role that workforce diversity plays in creating a sustainable and vital sector now and in the future and that the resources and waste management sector in the UK still has a considerable journey ahead of it to improve the diversity of its workforce.

While the ESA itself is a very small employer, we have committed to reviewing our recruitment processes and our equal opportunities policy and to promoting best practice diversity initiative from across our membership as part of our **Diverse Sustainability Initiative Commitment** with IEMA.

Additionally, under our Inclusion Commitment with EU Skills, ESA commits to:

- Work collaboratively as a sector to drive change, challenging ourselves to do things differently, by sharing best practice and delivering sector priorities.
- Focus on inclusion in its entirety, but begin with targeted action to increase gender, BAME and disability workforce representation across the sector.
- Measure and be transparent about progress
- Ensure we create the culture we need to attract the workforce of tomorrow.
- Be inclusive in the way we attract, recruit and develop our people.

# Regulation and enforcement

## Working with the Environment Agency

On behalf of its members, the ESA liaises closely with the Environment Agency (EA), which plays an essential role in regulating and permitting our members' activities while also protecting our members' investments in UK services and infrastructure by enforcing against waste crime, which otherwise undermines legitimate industry.

One of our main campaign objectives has been to highlight current permitting delays, which are continuing to hamper investment. In 2022, through the ESA/EA "Concordat" relationship, the ESA and the Environment Agency collaborated on a permitting workshop focussing on improving efficiencies in the permit application process. ESA also engaged with the EA National Permitting Service in order to drive performance – assembling an evidence base to demonstrate our members' experiences of the permitting system. This was successful in persuading the EA to develop end-to-end Key Performance Indicators (KPIs) for permitting.

Additionally, the ESA has lobbied senior decision-makers and Government, leading to a significant increase in resources in the permitting function of the Environment Agency, but the ESA remains disappointed that these measures have not yet improved performance. Despite positive collaboration with the EA and the instigation of the EA's permit improvement programme, members are still experiencing significant delays.

Similarly, on waste crime enforcement, building on the ESA/Eunomia *Counting the Cost of Waste Crime* report published in 2021, the ESA engaged with a Parliamentary Public Accounts Committee (PAC) inquiry and a **National Audit Office investigation** to make the case for improved measures to deal with the growing epidemic of waste crime.

ESA also sits on the JUWC Oversight Board which scrutinises the activities of the JUWC and explores approaches to enable successful outcomes for the Unit. The PAC report published later in 2022 concluded that there is still no plan in place to reach the Government's target of eliminating waste crime by 2043, or a means of tracking progress against this goal, while the NAO report, published in April 2022, found that Defra and EA data likely underestimates the scale of waste crime in the UK. The publication of the NAO report broadly coincided with an ESA-hosted webinar on Waste Crime at which the CEO of the Environment Agency, Sir James Bevan, set out a range of measures the agency considered necessary to drive criminals out of the sector – including greater resourcing for enforcement (with new funding streams – including voluntary funding from the sector), tougher sentencing penalties and, in the longer term, a potential ban on the export of waste material.

While the ESA believes that a full ban on exports is unnecessary and unviable, certainly in the short term, we would like to see all material destined for export meet defined, objective, standards and to have passed through legitimate permitted domestic sorting and reprocessing facilities prior to export in future. However, the ESA does share the EA's ambition for greater enforcement and tougher sentences on those caught engaging in waste crime – which currently do not provide sufficient deterrent.

Additionally, on the subject of waste exports, the ESA's Executive Director also appeared before the Parliamentary **Environment, Food and Rural Affairs (EFRA) Committee** in March 2022 to give evidence about criminal exploitation of, and enforcement around, waste exports. This was subsequently covered in **The Telegraph.** At the hearing, the ESA expressed concern about how defrauding the PERN system by exporting waste masquerading as recycling was a high reward and low risk enterprise given the low incidence of container inspections being undertaken.

The recommendations of the PAC report mirrored those made in 2021 by the ESA, advocating fast-tracking of regulatory reforms to tackle waste crime; drastically improving data and metrics to properly capture the impact and better benchmark enforcement progress; as well as stronger enforcement and tougher sanctions for waste crime, including landfill tax fraud.

Over the course of 2022, the ESA has worked with Defra and the EA to develop and encourage progress on proposals for regulatory reform to tackle waste crime – notably digital waste tracking and reform of the exemption and waste carriers, brokers and dealers registration regimes. We have also worked with the Joint Unit for Waste Crime (JUWC) and Crimestoppers to facilitate and encourage information and intelligence sharing, while also supporting the JUWC's communications campaign activity.

# Supporting regulation

In addition to permitting and enforcement, the ESA also works with the EA and devolved regulators as well as HMRC to ensure that regulations for waste treatment processes and the management of waste materials can be applied effectively and meet their environmental objectives. The table below summarises some of the more significant regulatory work undertaken by the ESA in 2022.

| | |
|---|---|
| **Persistent Organic Pollutants (POPs) in Domestic Seating** | The team worked with ESA members and other stakeholders via the Environment Agency POPs 'Resolver Group' to find solutions to the various challenges posed by managing this waste stream and to help communicate requirements to the wider sector. This included convincing the EA of the need for, and helping to develop, several Regulatory Position Statements enabling flexibility and a risk based transition to full compliance with the regulations, whilst enabling the removal of POPs contaminated waste from the environment. |
| **Hazardous Waste TreatmentTBC** | ESA's comprehensive evidence secured pragmatic Environment Agency implementation of specific Waste Treatment BRef requirements to enable increased certainty and so encourage investment in the hazardous waste treatment sector. |
| **Landfill tax water discounts** | ESA lobbied HMRC for consistent and robust regulation of the 'water discount' allowance within the landfill tax regime. |
| **Implementation of the Waste incineration BRef** | ESA's Energy from Waste Working Group continues to engage closely with the EA regarding implementation of Waste Incineration BRef requirements |
| **Regulation of Incinerator Bottom Ash Aggregate (IBAA)** | Working with our IBA reprocessing members, we encouraged a risk-based, pragmatic approach to the regulation of IBA and IBAA, including helping secure an extension of the existing regulatory position enabling the beneficial use of IBAA in construction projects whilst working with the EA to consider longer term more appropriate ways to regulate the use of this material as well as an appropriate sampling and testing regime. |
| **Regulation of Waste Oil** | ESA helped secure Environment Agency commitment to enable revision, and so continued use of, the processed fuel oil quality protocol which is utilised by several ESA members involved in waste oil collection and treatment. |

| | |
|---|---|
| **Waste shipments** | ESA participates in the Environment Agency Waste Shipments Stakeholder Liaison Group meeting. The group is an opportunity to feedback on EA priorities on proposals for waste shipments regulation. |
| **UK BAT** | ESA is a member of the newly formed Defra-led UK Best available Techniques (BAT) 'Advisory Group' which brings together all relevant parties with an interest in the UK BAT system, to help the development and review of future BAT (post EU Exit) which will set environmental standards for various sectors for the next 10 to 15 years. |
| **Contingency Planning** | ESA participated in Defra-coordinated waste sector contingency planning, considering the implications and solutions for managing possible interruptions to both energy supply and critical input materials to waste facilities, including possible short term regulatory flexibility. |

# 2. INFLUENCE THE UPSTREAM VALUE CHAIN

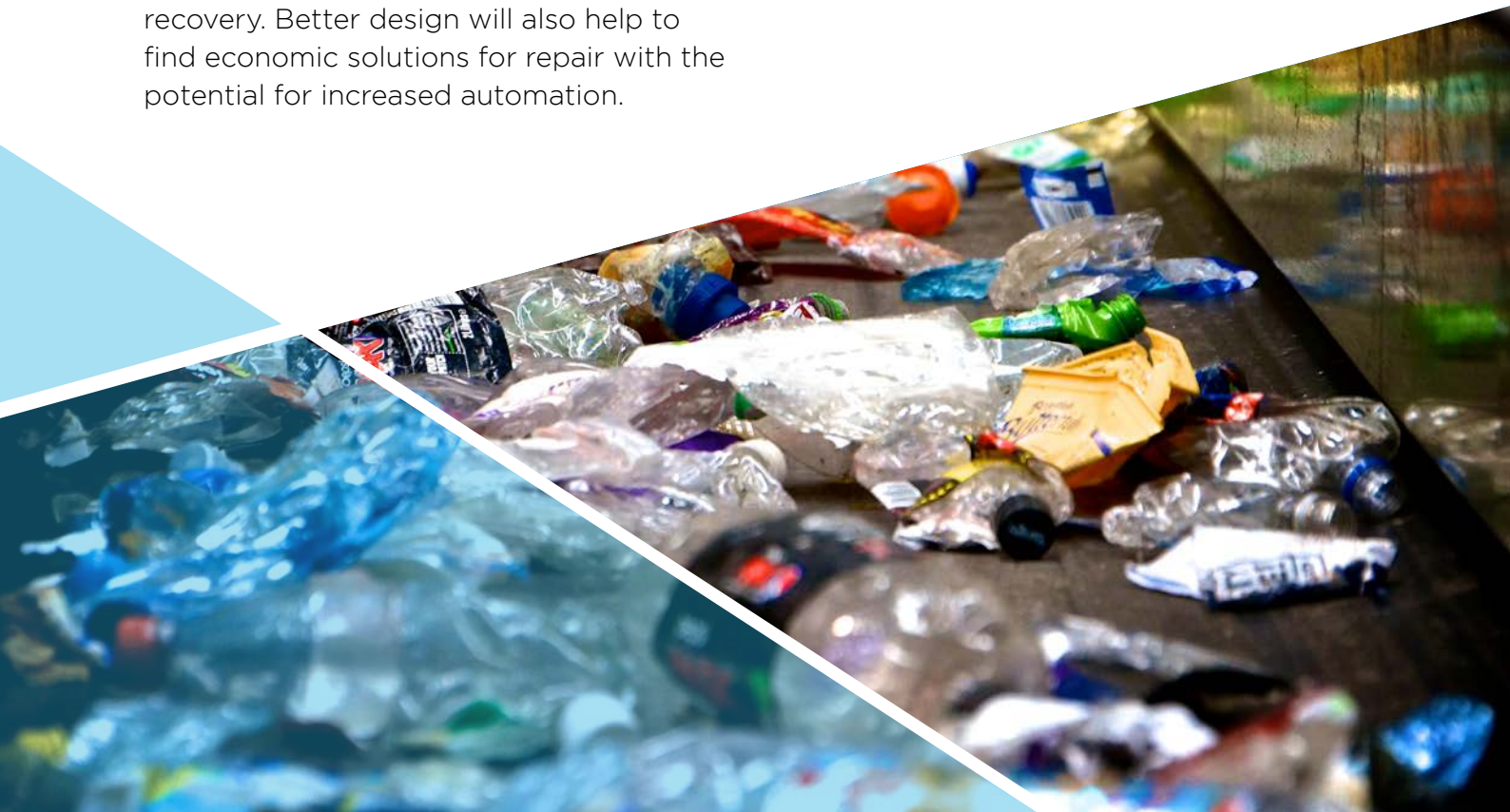
The ESA's new second strategic priority is to collaborate with producers, consumers and upstream customers to influence the design of products and packaging, helping to minimise environmental impacts and maximise material recovery.

The ESA will also work to influence consumers to encourage maximum engagement with recycling services, driving up participation rates and minimising contamination. We will focus at the top of the waste hierarchy to maximise the environmental benefits from our activities.

Designing products and packaging for circularity and taking a systemic approach to operations throughout their lifecycle will be critical for delivering a circular economy in the future. We will need to rationalise our use of materials and switch to the most suitable formats for different products. Design will consider end of life management and ensure maximum recovery. Better design will also help to find economic solutions for repair with the potential for increased automation.

The ESA and its members will also work closely with our customer base to help them separate items for re-use and to minimise the volume of materials wasted. This can be encouraged through stronger use of data and adapting purchasing and processes to maximise resource efficiency.

To achieve these aims, we will collaborate with academics, NGOs and other stakeholders to develop research and evidence to support the transition to more circular products and packaging, and we will deliver campaign activity, alongside media engagement, at a national level to encourage consumers to recycle, repair, re-use and avoid waste as much as possible.



# Campaigns

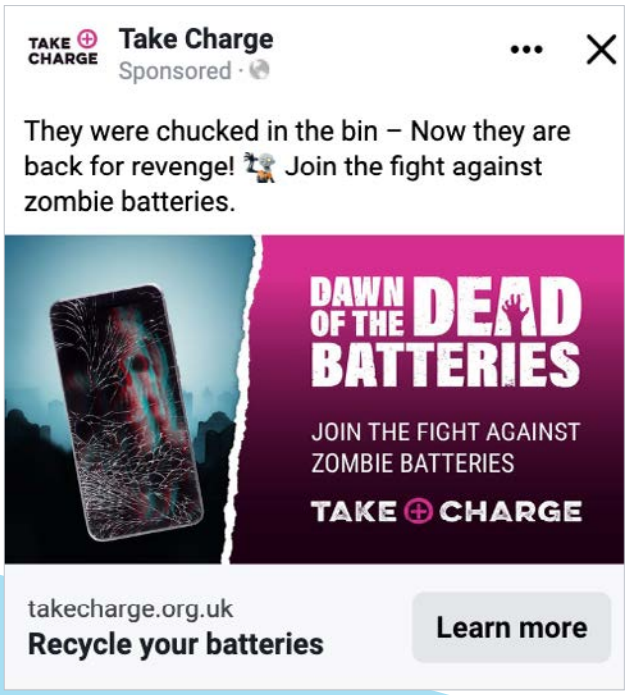
## Lithium-ion batteries

The *Take Charge* campaign was first launched in 2020 with the aim of influencing consumers to engage in responsible battery disposal behaviour, by ensuring that they only dispose of batteries using the correct recycling systems. This campaign was driven by the growing issue of lithium-ion (Li-ion) battery fires in recycling and waste management facilities which, in 2022, continued to be a serious challenge facing the sector.

In Q4 2022, the ESA (with sponsorship from Ecosurety) re-launched the campaign to coincide with Halloween and the campaign attracted hundreds of supporter organisations who participated in sharing content from a toolkit of digital campaign assets. As of December 2022, the ESA estimates that more than 100 local authorities, and dozens of other organisations, participated in the campaign in 2022 by sharing campaign collateral across their social media profiles – with some even creating physical signage at Household Waste Recycling Centres (HWRCs) and other public spaces.

After the Halloween launch, the ESA also released a toolkit of generic campaign assets which can be used in perpetuity for free at any point in the year. This was followed up by a small toolkit of Christmas themed material which was made available to supporters to download for the holiday season.

In addition to this organic supporter activity, the ESA undertook a modest but targeted social media advertising campaign across Facebook, Instagram and Twitter. This resulted in millions of impressions (opportunities for people to view the campaign content) and thousands of link-clicks to the campaign website at **www.takecharge.org.uk**






The ESA also appeared on BBC Breakfast, BBC News Online, BBC Radio 4, BBC World Service and GB News to discuss the campaign and raise awareness of the issues that arise when li-ion batteries are not recycled responsibly. This prime media engagement reached an audience of millions across the UK.

Over the past two years, the ESA has engaged with numerous stakeholders across the portable battery value chain to understand the issues and opportunities to reduce the risk of li-ion battery fires and presented to both the National Fire Chiefs Council (NFCC) and the RDF Industry Group on the issue in October 2022. With its members, the ESA is currently also embarking on an artificial intelligence and computer vision research project to assess the potential for these systems to aid battery identification and removal in waste streams before they can cause fires. Furthermore, the ESA considers that reform of battery regulations, which is due to happen in 2023, represents an important opportunity to address the issue through upstream interventions and policy-drivers to complement downstream activities.

## Confidence in plastics recycling

In Q3 2022, the ESA initiated the development of a public information campaign which aims to increase UK consumer confidence (and subsequent participation) in plastics recycling. It also aims to demonstrate cases where plastic is the most sustainable material for a given application from a lifecycle perspective and educate consumers when switches to other material (such as laminate and multi-material packaging) may be a less sustainable option.

The primary objectives of the campaign are to identify suitable and actionable audience segments through quantitative research, and to use consumer insight obtained through qualitative research to develop engaging, influential, messaging to reach those segments. The campaign messaging will be delivered primarily through social media influencer activation.

The campaign is being progressed in partnership with the British Plastics Federation (BPF) and will be undertaken by a specialist communications agency. The first stage of research was completed in December 2022 and the campaign will go live in Q1 2023. The research findings will be shared with the ESA membership in due course in 2023.

# 3. DELIVER MORE RECYCLING

## Resources and Waste Strategy

### Influencing the Extended Producer Responsibility (EPR) regime

Defra's Resources and Waste Strategy (RWS) remains the keystone policy package that will shape the resources and waste sector over the next decade, comprising three interconnected "pillars" covering Extended Producer Responsibility (EPR), Collections Consistency and a Deposit Return Scheme (DRS).

Defra published its consultation response and position on Extended Producer Responsibility in March 2022 but unfortunately, as a result of the political machinations of 2022, the sector will have to wait until 2023 for Defra's final position on collections consistency and a deposit return scheme.

The ESA compiled and submitted comprehensive feedback during the EPR consultation process and has participated in Defra's RWS Stakeholder Advisory Group throughout, as well as numerous conferences and webinars hosted by organisations across the packaging value chain.

The ESA remains in ongoing dialogue with Defra on delivery of the RWS, and from December 2022, is participating in an EPR "sprint group" hosted by Defra alongside other stakeholders, to determine the outcomes for EPR and a longer-term vision for the sector over the next decade.

In the meantime, the ESA is pleased that the views expressed on behalf of its members are reflected in Defra's EPR regime – particularly that the regime makes use of modulated fees; has not attempted to introduce business waste payments on roll-out and retains the PRN system.

The use of modulated fees places differential compliance fee rates on various materials and packaging formats, favouring those which are easier to recycle in practice. Obligated producers will start reporting in 2023 and fees will be introduced in 2024 apportioned according to disposal costs – with modulated fees based on recyclability assessments due to come into effect in 2025.

While both the final form that modulated fees will take and the overall assessment framework for recyclability remain unknown, the move to modulated fees should help reverse some recent ill-considered transitions to harder-to-recycle formats in the packaging marketplace. Defra's approach to EPR payments has also sensibly dropped some elements ESA considered would not incentivise the pursuit of better recycling performance across the value chain. Downstream recycling performance, however, looks like it will have to rely upon the collections consistency agenda as the principal driver for boosting quantity and quality of materials from household collections without much support from EPR in this area beyond funding.

On collections consistency, Defra's response signalled that packaging would move to a binary recycling labelling system, which will help improve material quality by reducing contamination and make life easier for consumers. Defra also stated that biodegradable and compostable packaging will carry a "do not recycle" designation, which again should help avoid contamination of the other recycling streams and provide a clear signal to the packaging supply chain about the use of this material.

To Defra's credit they have clearly listened to the industry over EPR payments for household-like waste collected from businesses, which is a very complex challenge that was not adequately resolved in the view of a number of stakeholders (including the ESA), prior to the response being published. The ESA was subsequently pleased to see that this has been deferred subject to a taskforce conducting additional detailed work and a review in 2026/27.

ESA continues to call for Government to implement a long-term escalator on the Plastics Tax. An increase in both the minimum recycled content threshold and the rate per tonne of the tax would stimulate much needed additional end-market demand for lower value materials such as post-consumer plastic film. This would also provide a long-term framework to support investment in the additional recycling capacity required to onshore more of our plastics recycling.

# The RWS Reforms at MRFs: Member Survey and External Engagement

ESA surveyed its members over the Summer 2022 to assess the impacts that the reforms will have on existing sorting facilities and to help inform Defra's delivery team of the challenges faced. The survey received responses covering 58 facilities with a sorting capacity of circa 2.6 million tonnes per annum. This represents the majority of MRF sorting capacity in the UK, underlining how the survey's findings provide a comprehensive representation of the challenges that the sector faces in implementing the reforms at sorting facilities.

The key findings of the survey were firstly that around one in four sites will require major upgrades, costing up to £50 million per site. Such upgrades would necessitate shutdowns of up to 12 months. The remaining sites will require minor upgrades, requiring shutdowns of at least one month. Due to the interlocking challenge of phasing upgrades, a substantial permit backlog, contractual amendments, and equipment procurement challenges, members estimated that it will take up to five years to deliver the required infrastructure changes across all sites.

The survey also uncovered that just over half of facilities lack the space for the enhanced sampling requirements. Many facilities, including waste transfer stations, will require reconfiguration and reduced throughput to accommodate the requirements. These sites will also incur significant additional logistical challenges, such as additional staff traffic and a move to offsite sample analysis. In addition, members expressed significant concern about the resources allocated to regulate the sampling regime. Given that sampling will inform the distribution of over £1 billion of local authority payments per year, members underlined that it must be robustly regulated to ensure a level playing field across the sector.

Building on the survey, ESA organised a workshop for Defra and WRAP in December 2022. This illustrated the practical challenges that member facilities face in transitioning to meet the new requirements, incorporating a tour of FCC Environment's *Re3* facility. The workshop additionally provided a forum for members to outline their broader concerns and highlight key areas requiring further clarity, as well as ESA's key priorities to ensure the reforms' successful implementation.

ESA and WRAP have since agreed in principle to collaborate to develop a more detailed action plan for the delivery of the reforms at sorting facilities in 2023. While much of this detail will be contingent on clarity provided through Defra's consultation responses, ESA remains keen to continue its engagement with WRAP to feed workable solutions for implementation into Defra.

# Quality standards for plastic and paper

In September 2022 the ESA published a **Quality Standard for Recycled Plastics** which was developed in partnership with ESA Members, British Plastics Federation (BPF), the Recycling Association and plastics recycling charity RECOUP.

The standard covers the export of LDPE films and of mixed plastic bottles, pots, tubs and trays made from HDPE, PET, PP and PS. It includes guidance for keeping records about each of the processes applied to the input materials; the care that should be taken to describe target materials and the amount of residual contaminants which can be present, among other things.

It also contains a guide for visual inspections, classifying contaminants as 'green', 'amber' (and therefore requiring further inspection), and banned 'red' items. ESA members agree to phase in the adoption of this standard as a reference baseline over the course of 2022/23.

Additionally, working with ESA Members and the Recycling Association the ESA submitted an application to the Environment Agency (EA) for a Resource Framework for end of waste status for paper and fibre.

A Resource Framework, developed with the EA, is one way of establishing the point in the recovery process at which those quality materials can lose their waste status. Once a material has lost its waste status it means all the red tape associated with waste movements and control can be relaxed, and the high-quality waste-derived materials can enjoy the same internal market freedoms as primary raw materials.

At the time of compiling this report, the ESA awaits the EA's formal technical response to the application and will update members on progress in 2023.

# Additional recycling workstreams

In 2022, ESA commissioned a report by 360 Environmental to provide an objective and impartial perspective on whether commercial waste zoning, as discussed and proposed by Defra, Scottish Government, and others, might provide a cost-effective alternative to the current solutions in the market for commercial waste collections.

To ensure the broadest remit of the report, the modelling for the paper is focussed on Glasgow as being a typical urban area under one local authority that both the Scottish consultation and the Defra EPR and Consistency consultations indicated to be the primary type of area to which zoning might be applied.

The report is due to be published in early 2023 and the results will inform ESA's engagements with Scottish Government and Defra on the issue.

# 4. REDUCE CARBON EMISSIONS

## ESA Net Zero Strategy

The recycling and waste management sector has reduced its GHG emissions by 46% since 1990 but still contributes 8% of UK carbon emissions (36MtCo2e)

Our sector's largest direct and indirect emissions contributions (scope 1 and 2) arise from recycling processing plants, which use significant amounts of energy. These emissions are expected to increase as more materials are collected for recycling over the coming decade and before the electricity grid is decarbonised. However, these operations contribute significantly to system decarbonisation through 50MtCo2e in avoided emissions.

Other significant scope 1 and 2 emissions include those from the landfilling of residual waste and from waste collection and transport, followed by those from energy recovery operations and transfer stations.

The ESA's Net-Zero strategy sets an ambitious but credible target for the recycling and waste management sector to reduce these emissions to net-zero by 2040. To achieve this the strategy sets three priority objectives for the sector:

- **Invest £10 billion in recycling infrastructure** to drive up recycling rates and reduce residual waste, while also increasing the capture of methane emissions from landfill by 85% by 2030
- **Decarbonise non-recyclable waste treatment** by diverting organic waste from landfill to recycling and energy production by 2030, and by removing plastics from energy recovery facilities. Deploy carbon capture technology across energy from waste facilities where feasible by 2040
- **Purchase only zero emissions collection vehicles** from 2030, phasing out petrol and diesel entirely by 2040. Move vehicle and all on-site fuel use to zero emissions sources by 2040

All priorities and targets within the Net-Zero Strategy will be assessed and reviewed every five years to take account of internal progress, policy changes and market shifts – ensuring that they remain both achievable and ambitious.

## Progress report

| PRIORITY | STATUS UPDATE |
|---|---|
| **1. Support the UK's Drive towards a circular economy and net zero** | The importance of influencing and implementing Defra's Resources and Waste Strategy (RWS) and working to move more material further up the waste hierarchy, are reflected in the ESA's new strategic priorities for 2022 and beyond. Activity against these priorities is reflected earlier in this report. |
| **2. Reduce emissions from our operations** | • From May 2022, ESA now reports the **R1 efficiency status** for its members' energy recovery facilities on its website and continues to work with and support its members in achieving recovery status for all facilities.<br>• In partnership with the Association for Decentralised Energy (ADE), ESA produced and published a **Heat Network Directory** in 2022 which provides a useful reference guide to heat network developers about potential offtake associated with existing EfW facilities.<br>• In 2022, the ESA and BEIS jointly commissioned Arup to undertake a study investigating the economic viability of five potential EfW heat networks using an algorithm that matches heat demand with supply. The outcomes of this study will be published in 2023.<br>• The ESA campaigned to ensure that energy recovery facilities were included by BEIS in the Industrial Carbon Capture Business Model and four EfW facilities have now progressed to the final stage of funding negotiations. |
| **3. Reduce emissions from our buildings, transport solutions and infrastructure** | ESA has engaged with Department for Transport (DfT) and other stakeholders to explore opportunities to decarbonise recycling and waste sector fleets and mobile plants, particularly looking at hydrogen solutions. |
| **4. Data collection and reporting** | See next section. |

# ESA membership carbon reporting

As part of our Net Zero Strategy, the ESA committed to review the combined carbon emissions of our membership to track progress against our commitments and ensure transparency. The Net Zero Strategy examined the contribution of the UK Waste and Resources Sector as a whole to UK carbon emissions. It was therefore important for the ESA to establish a preliminary baseline of the emissions our members alone contribute to ensure our progress can be followed.

The ESA is happy to confirm that the independent environmental consultancy, Ricardo, was able to quantify the greenhouse gas (GHG) emissions associated with our full members' operations. The emissions captured in the report included direct and indirect emissions, known as scopes 1 and 2, for the full members of the association. This initial reporting and analysis is the first of its kind for the association and is a starting point to establish a baseline from which to track our progress on the road to net zero by 2040. The ESA considers this a useful exercise to understand our members' impact and demonstrate transparency.

## Definitions:

- **Direct (scope 1)** GHG emissions occur from processes or equipment owned or controlled by the entity. For example, emissions from combustion installations, landfills (fugitive emissions), company-owned vehicles.
- **Indirect (scope 2)** GHG emissions are emissions that are consequences of the activities of the entity but that physically occur at sites or during operations owned or controlled by an organisation other than the reporting entity. For example, emissions resulting from imports of electricity, heat or steam not self-produced.
- **Avoided GHG emissions** arise when an activity leads to avoiding emissions that would otherwise have occurred elsewhere.

## Methodology

To ensure consistency with the ESA's 2021 Net Zero Strategy, Ricardo used the same 2018 baseline and methodology to assess the 2021 members emissions. For further information, the full methodology can be found within the strategy document.

The assessment considers the following waste categories:

- Municipal waste
- Commercial waste
- Industrial waste
- Construction & Demolition waste
- Hazardous waste
- Clinical waste

The recycling and waste management activities included in the scope of this assessment are:

- Collection and transportation
- Transfer stations
- Mechanical pre-treatment (dismantling)
- Sorting, recycling and material recovery
- Physicochemical treatment
- Biological treatment (composting, in-vessel composting, anaerobic digestion)
- Landfill
- Thermal treatment
- Mechanical biological treatment (MBT).

To obtain the necessary data, Ricardo developed a data bank of full ESA member GHG emissions for the 2021 year. The GHG emissions calculation for ESA members was based upon the Entreprises pour l'Environnement (EpE) tool. This tool has the "Built on GHG Protocol" label, which reassures users wanting to follow the GHG Protocol standard. Waste tonnages managed by ESA members were calculated using data from the most recent (2021) English and Welsh Waste Data Interrogator (WDI) datasets.

Where the information was not possible to obtain, Ricardo used benchmarks to estimate the emissions for the ESA members. Over time, the ESA and Ricardo will work with our members to build the capacity and capability to report in line with these requirements to increase the reliability and accuracy of the results. In future years, the ESA hopes to be able to include geographical information within this reporting to allow for this distinction.

## Outputs

The results founds that the ESA members' direct (scope 1) emissions account for approximately 47% of the whole UK sector emissions – or circa 14MtCOE2 of 30 MtCO2e. ESA member total emissions (scope 1 and scope 2) are just under 15 MtCO2e and scope 1 emissions account for 96% of this figure. In the ESA's previous sectoral analysis, total Scope 1 and 2 emissions from the entire UK sector were calculated at approximately 36MtCO2e, with avoided emissions of -50MtCO2e.

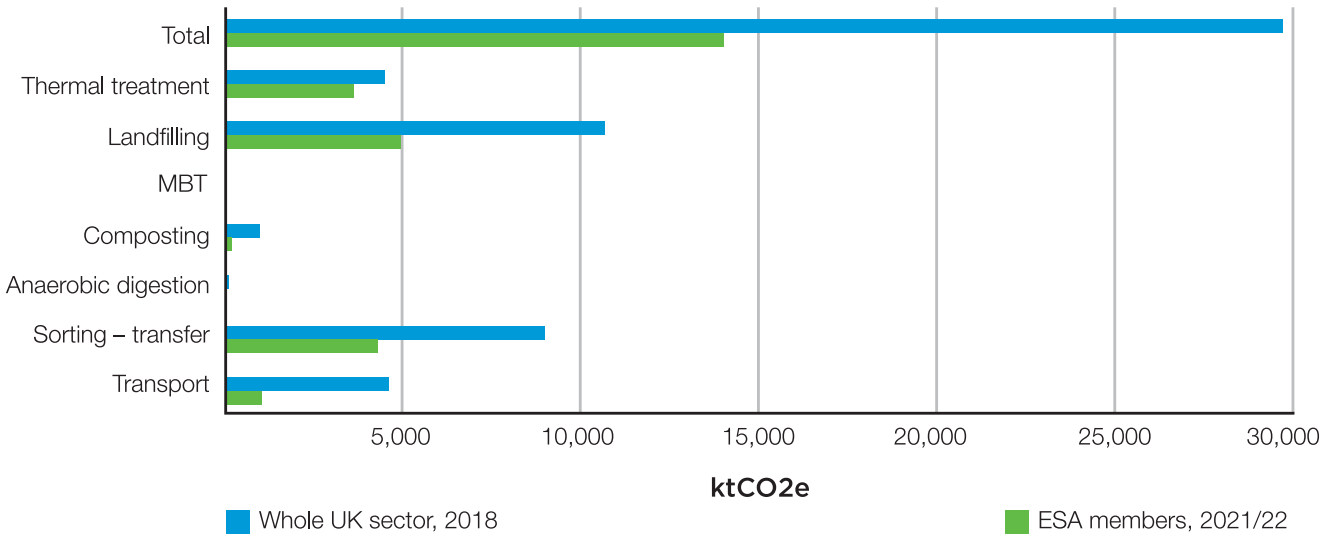
The greatest carbon savings remain at the top of the waste hierarchy by making behavioural and systemic changes to eliminate waste through avoidance. Scope 1 and 2 emissions associated with recycling activities account for just under 15 MtCO2e at a sectoral level, but the wider contribution these activities make to system decarbonisation is clear through the -28MtCO2e they avoid. Although the sector cannot account for these emissions, the results shows the inherent value of our sector between a circular economy and achieving net zero.

Looking at the total scope 2 emissions, recycling activities account for less than we would expect, given the scope 1 emissions associated with these activities. This is likely due to the use of benchmarks within the accounting and we hope that, over time, a clearer picture will develop as we are able to add more data to subsequent reports.

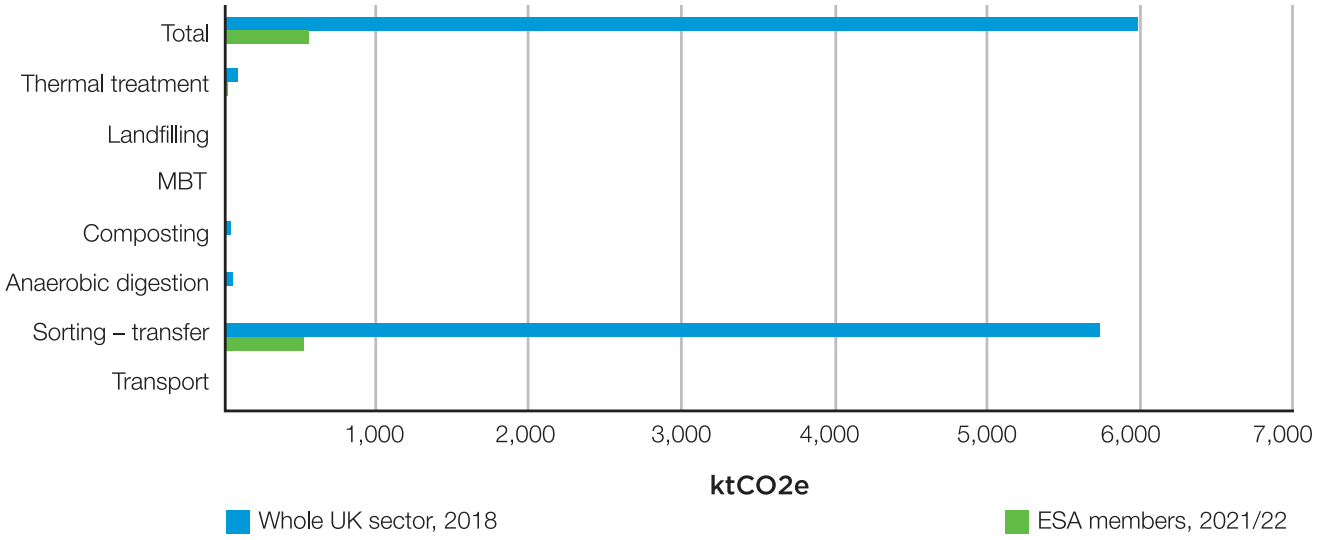
As above, the ESA considers this first reporting to be a first step towards building a complete and granular picture of our members' GHG emissions in the interests of transparency and maintaining the organisation's net-zero commitments. The ESA intends to work with its membership to continually improve reporting over time.

The chart below shows a break-down of ESA members' direct scope 1 GHG emissions compared with the sector as a whole and the charts overleaf show the same for scope 2 emissions and the components of ESA members' contribution to avoided emissions. (Please note that the scale changes between charts.)

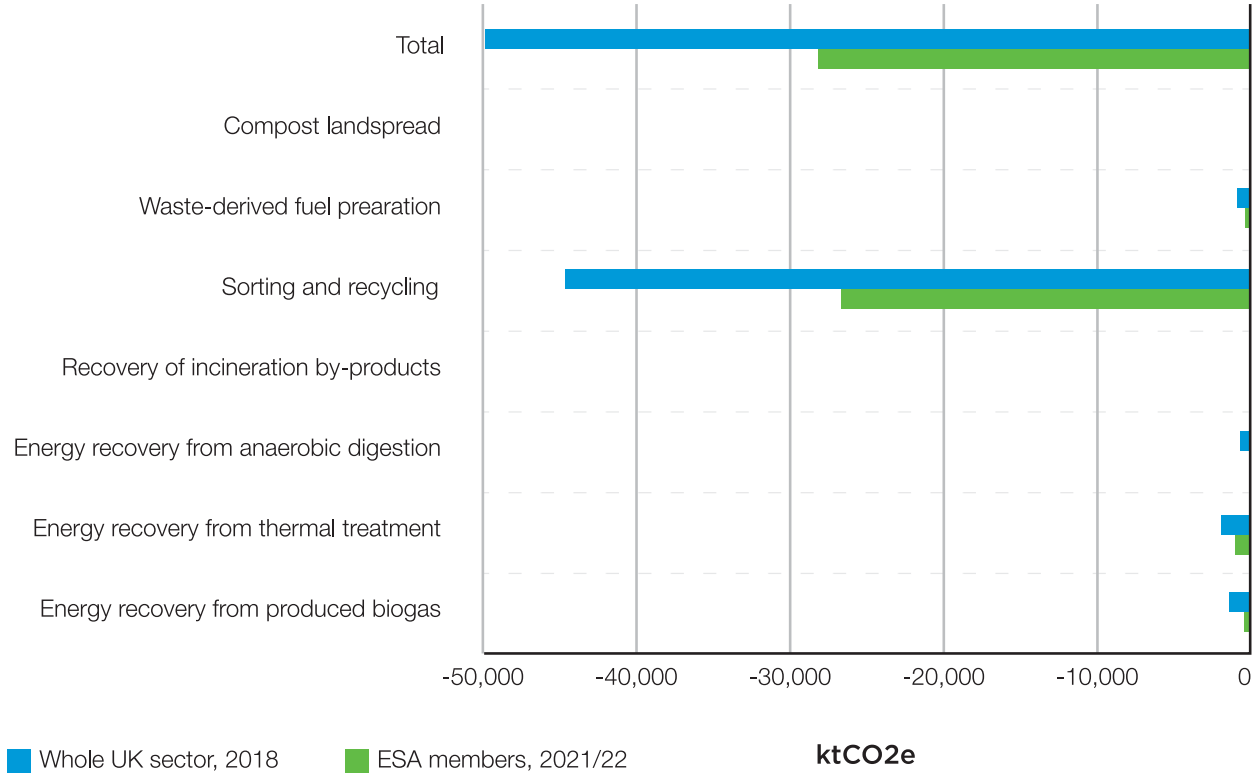
### Whole Sector vs ESA Members Direct (Scope1) Emissions



## Whole Sector vs ESA Members Indirect (Scope2) Emissions




## Whole Sector vs ESA Members Avoided Emissions




# The Emissions Trading Scheme

In March 2022, the Department of Business, Energy and Industrial Strategy published a Call for Evidence on expanding the UK Emissions Trading Scheme (ETS) to all waste incinerators and Energy from Waste facilities this decade. By including these facilities, it would provide an economic incentive to reduce fossil carbon emissions from these installations through increased innovation, investment, and a focus on reducing plastic residual waste.

The ESA developed an extensive response to this Call for Evidence with input from the EfW and Climate Change Working Groups. We support the use of carbon pricing as a power tool to decarbonise the sector, however, due to the complexity of the waste sector, the application of the ETS must be applied in a suitable manner with an acknowledgement that EfW facilities provide an essential sanitary service at the end of a long waste chain.

As acknowledged within the ESA Net Zero Strategy, the priority for reducing emissions from residual waste is to remove plastics from the EfW feedstock and into recycling streams via the policies captured within Defra's Resources and Waste Strategy. This creates a win-win scenario for Government where recycling is increased, and residual fossil carbons emissions are reduced. It is essential that there is sufficient time for these policies to be implemented prior to the application of the ETS to the sector.

The ESA considers that timing of any future inclusion within the ETS is an important factor and that it would be inappropriate to be applied before the 2028 at the earliest – aligned with the introduction of a comprehensive organic waste to landfill ban and other policy drivers to facilitate the decarbonisation of the sector and reduce carbon leakage.

During the Call for Evidence period, the ESA engaged with an extensive number of stakeholders including key contacts within HM Treasury, BEIS, DEFRA, and wider stakeholders including the Local Government Association (LGA), Renewable Energy Association (REA) and the Confederation of British Industry (CBI) on this topic. The ESA will continue to engage with these stakeholders as these proposals continue to develop.

The complexity of our sector makes it unlike most other carbon emitters included within the ETS. Given these, there are several areas of outstanding concern the ESA and our members are addressing through our newly developed ETS sub-group. Understanding how the ETS can be applied to our sector in a simple, feasible, accurate, and fair manner will continue to remain a priority for the ESA in the years to come.

# Promoting EfW heat networks

Currently, a third of all UK emissions result from how we heat our homes and businesses. Decarbonising this process will not be easy, but a plethora of technologies is available to support a step change towards this goal.

Using heat generated from industrial processes to heat homes and businesses in dense urban areas is an example of a low-carbon and cost-effective solution to decarbonising heating. Heat networks operate by transporting heat produced from industrial process, in the form of hot water or steam, through a network of insulated pipes to local communities.

The primary purpose of EfW facilities is to dispose of non-recyclable residual waste in a sanitary manner, but this this process generates heat and electricity as a by-product. Using this heat to generated low-carbon steam and hot water to heat local buildings is a perfect example of the circular economy in practice and could help to decarbonise one of the most challenging sectors of the UK.

## a) Heat Network Directory

In March 2022, the ESA, with support from the Association for Decentralised Energy (ADE) and BEIS, published an EfW Heat Network Directory which was introduced by Lord Callanan, Minister for Business, Energy and Corporate Responsibility at the national EfW conference.

The purpose of this directory is to increase the visibility of EfW heat networks and highlight the latent opportunities to develop low-carbon heating infrastructure. The tool, which is available to view and use on the ESA's website, provides a quick-reference guide and pertinent information for heat network developers wishing to explore and understand the capabilities and opportunities to offtake heat from existing energy recovery facilities.

## b) Heat Network Study

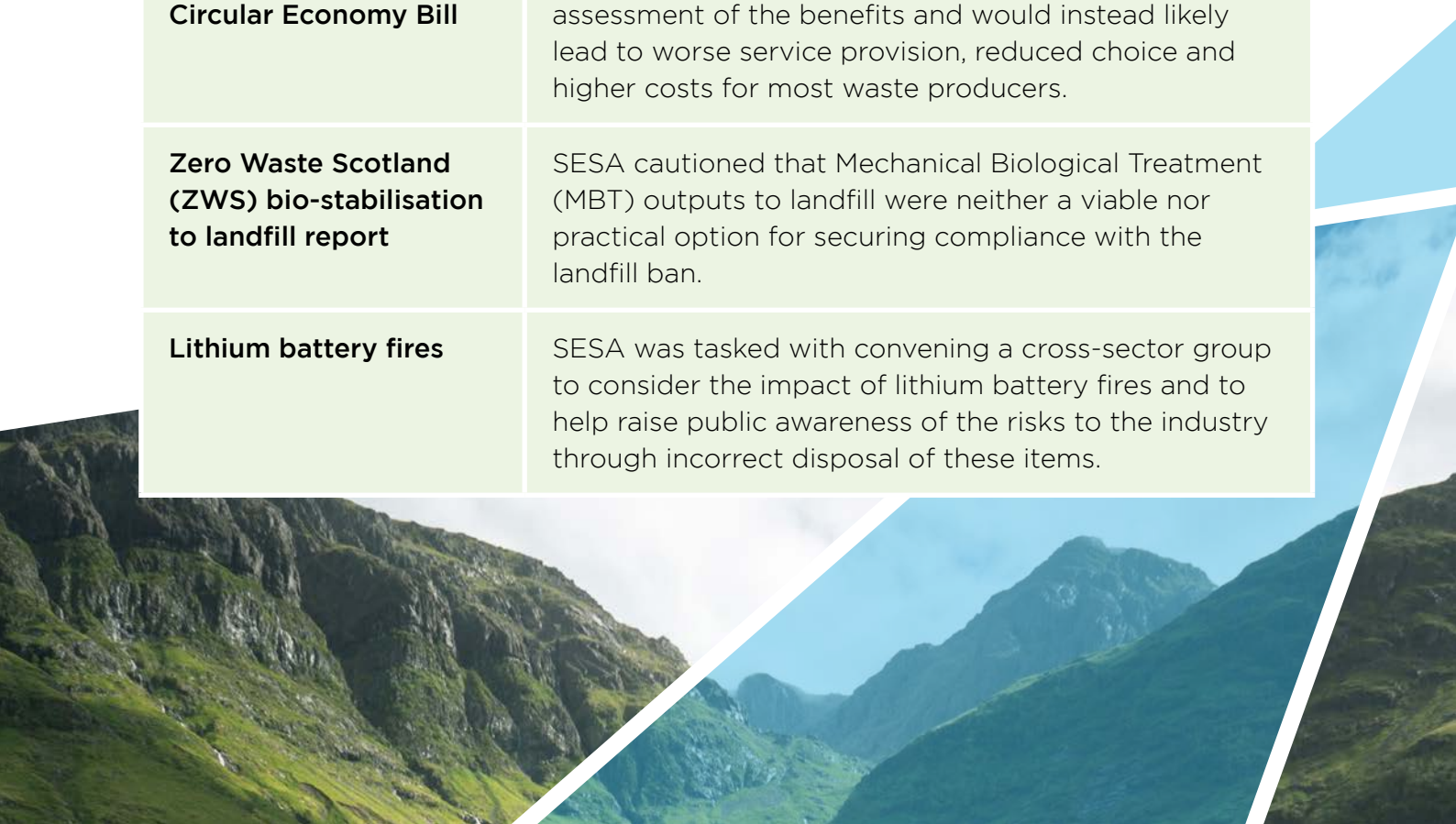
In the latter part of 2022, the ESA furthered its Heat Network Directory by commissioning a joint study with BEIS (conducted by Arup) which investigates the economic viability of five potential EfW heat networks using an algorithm that matches heat demand with supply. The study looked at conventional heat networks using single urban EfWs, as well as more ambitious options, such as a regional network connecting multiple EfW sources with heat demand across urban and rural areas.

The results of this study will be of use to local, regional, and national heat network zoning planners looking to identify the potential pathway of EfW heat networks, and can help customers identify the potential to connect to local heat networks. The ESA looks forward to publishing the outputs on this study in early 2023 and will continue to advocate for the development of EfW heat networks to support our net-zero and circular economy commitments.

# SCOTTISH ENVIRONMENTAL SERVICES ASSOCIATION (SESA)

Given that resources and waste is a devolved matter in Scotland, SESA exists to ensure that our members' views and their activities are represented and considered in policy-making in Scotland. The table below reflects some of the main policy work undertaken by SESA in 2022.

| | |
|---|---|
| **Scottish Government incineration review** | SESA provided evidence to the review process, recommending measures needed to address the reported waste treatment capacity shortfall upon implementation of the landfill ban in 2025, along with an increased focus on the upstream recycling measures that would prevent materials ending up as residual waste. |
| **Persistent Organic Pollutants (POPs) in domestic seating** | Through an industry stakeholder group, SESA worked with SEPA and others to flag key issues to help inform the development of guidance for the collection, storage and treatment of this waste stream. |
| **Waste targets routemap consultation and Circular Economy Bill** | SESA expressed concern that proposals for commercial waste zoning were based on an incorrect assessment of the benefits and would instead likely lead to worse service provision, reduced choice and higher costs for most waste producers. |
| **Zero Waste Scotland (ZWS) bio-stabilisation to landfill report** | SESA cautioned that Mechanical Biological Treatment (MBT) outputs to landfill were neither a viable nor practical option for securing compliance with the landfill ban. |
| **Lithium battery fires** | SESA was tasked with convening a cross-sector group to consider the impact of lithium battery fires and to help raise public awareness of the risks to the industry through incorrect disposal of these items. |



# TREASURER'S REPORT

The year ending March 2022 produced another solid financial performance for the Association. Once again we succeeded in our aim to meet a balanced budget with a small surplus achieved for the year. Income was stable at just over £1.2 million which reflected a small increase in membership subscriptions combined with a reduction in additional income raised from members for special projects, such as our Right Waste, Right Place duty of care campaign.

Industry consolidation provides a perennial downside risk to the Association's finances, but the outlook remains positive with continued opportunities across the sector remaining for expansion in Membership. For the year ahead, ESA implemented its first increase in nominal subscriptions since 2010, which will also help the Association to cover increases in its cost base. During 2021 ESA completed its office move, securing its central London location, convenient for access to politicians and officials in nearby Westminster, at continued reasonable rent.

ESA's strong and stable finances will enable the Association to continue to provide value to members across our strategic priorities. We have commissioned further work to help support the implementation of our decarbonisation plan, which enable the sector to meet net zero by 2040, as well as studies on heat networks and electricity market reform. Looking ahead, ESA will publish research on tackling waste crime and avoiding adverse consequences from recycling reforms.

Forthcoming Government reforms, and the implementation of the Resources & Waste Strategy in particular, will introduce a period of radical change for the sector and a strong opportunity for the Association to demonstrate its value as the voice of the industry. Ongoing regulatory challenges, such as permitting delays and managing POPs-contaminated waste streams, also provide ample opportunity to support members and help to build a high performing sector fit for the future.

As the industry moves forward through these turbulent times, ESA is in strong position to expand its activities and help its members to navigate their way through the political and regulatory changes ahead.

**Neil Grundon**
Treasurer, Environmental Services Association (ESA)

# ESA MEMBERS' PROJECT YEARBOOK

ESA members deliver world-class infrastructure across the waste hierarchy in the United Kingdom. The case studies below present a sample of project milestones in 2022, submitted from across our membership, and provide an illustration of the crucial frontline role ESA members play in the UK's circular economy.

## CASE STUDY

ESA Member:
**Veolia**

Project:
**Minworth Battery Recycling**

Location:
**Minworth, West Midlands**

Milestone:
**First electric vehicle battery recycling facility in the UK which will have the capacity to process 20% of the UK's end of life electric vehicle batteries by 2024**

Date:
**January 2022**

Many of the materials required for battery manufacturing rely on traditional mining which uses water and energy intensive processes. Using recycled materials potentially reduces water consumption as well as cutting carbon emissions by up to 50%.

Veolia's new facility in Minworth marks the first step in developing a recycling technology and treatment centre within the UK, with an anticipated 350,000 tonnes of end life vehicle batteries predicted to be in the country by 2040.

The plant will initially discharge and dismantle batteries before mechanical and chemical separation processes are completed.

Batteries for recycling

## CASE STUDY

ESA Member:
**FCC Environment**

Project:
**Millerhill recycling and energy recovery centre (RERC)**

Location:
**East Lothian, Scotland**

Milestone:
**Delivering low-carbon heat to homes and businesses within the Midlothian area**

Date:
**September 2022**

Inside Millerhill RERC

Waste heat from Millerhill recycling and energy recovery centre (RERC) operated by FCC Environment will provide low-carbon heat to 170,000 homes in the Midlothian and Edinburgh region by 2050 as Midlothian Council and Vattenfall Heat UK form a joint venture to deliver low-carbon heat to homes and businesses within the Midlothian area.

Construction of the initial district heating network, supplying around 3,000 homes, education and retail properties at Shawfair Town in the north of Midlothian Council area was expected to begin in 2022 and deliver heat to homes by 2024. This initial phase is expected to save over 25,000 tonnes of CO2 per year, the equivalent of taking 1,200 cars off the road. The project will benefit from up to £7.3m from the Scottish Government's Low Carbon Infrastructure Transformation Project (LCITP).

The waste heat captured and supplied by Midlothian Energy Limited will be cheaper than alternative low-carbon sources and not affected by the current wholesale energy cost inflation, thus protecting customers from market volatility through long-term lower prices for heat supply. Vattenfall's modelling suggests the heat networks in Midlothian could reduce emissions by up to 90% in comparison to individual gas boilers fitted in every home.

## CASE STUDY

ESA Member:
**SUEZ recycling and recovery UK**

Project:
**Flexible Plastic Fund (FPF) FlexCollect Project**

Location:
**National**

Milestone:
**Launching pilot kerbside collections with two local authorities**

Date:
**October 2022**

FPF FlexCollect is the UK's most extensive pilot for household collection and recycling of flexible plastic packaging. The £2.9m project, managed by SUEZ recycling and recovery UK and funded by the Flexible Plastic Fund, UKRI SSPP, DEFRA and Zero Waste Scotland will seek to understand how to incorporate flexible plastic into existing collection services across different demographics and develop best practice and cost data ahead of the introduction of consistent collections and Extended Producer Responsibility across the UK.

The project passed a significant milestone in 2022, with Cheltenham Borough Council and South Gloucestershire Council rolling out collections to a combined total of over 4,000 households. SUEZ work with each local authority to develop a tailored project plan detailing the collection, processing and consolidation of flexible plastics. In the first month, more than a tonne of flexible plastic packing has been collected for recycling. SUEZ are recruiting a further seven local authorities to join the project in 2023.


FPF FlexCollect collection bag

## CASE STUDY

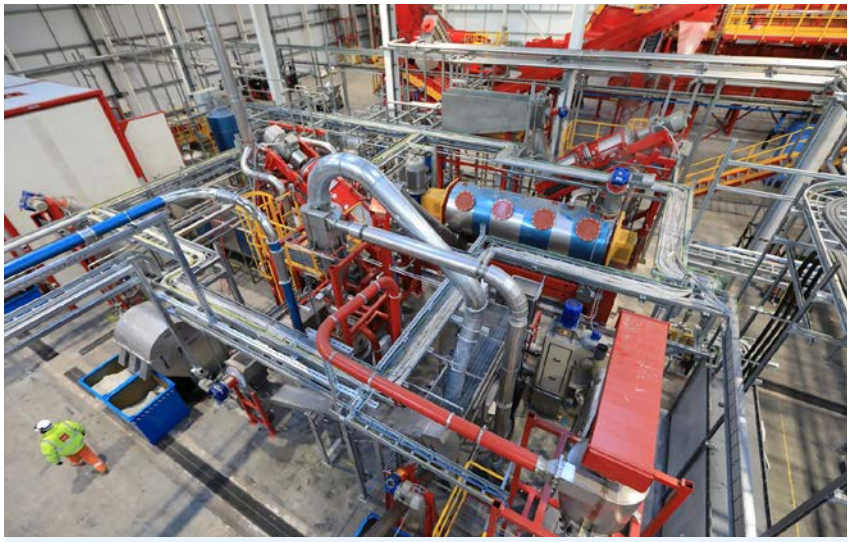
ESA Member:
**Biffa**

Project:
**Biffa Polymers - Seaham**

Location:
**County Durham**

Milestone:
**EFSA food grade status**

Date:
**January 2022**



Biffa Polymers, Seaham

After receiving regulatory approval from the European Food Safety Authority, Biffa's £27.5m recycling plant in Seaham signed multi-million-pound agreements to supply its world-class food grade rPET pellet to customers including Nestle Waters.

Seaham is capable of recycling more than two billion bottles a year and is now operating at full pellet production rate. With the introduction of the Plastics Packaging Tax, Biffa expects to see strong demand for its material.

The acquisition of certain Viridor assets, including PRF capacity, means that 100% of the PET feedstock for Seaham comes from within the Biffa network, giving stability of supply and improving quality control.

## CASE STUDY

ESA Member:
**Grundon Waste Management Ltd**

Project:
**Development and deployment of Artificial Intelligence (AI) to improve the sorting and recovery of plastic waste**

Location:
**Bishop's Cleeve, near Cheltenham, Gloucestershire**

Milestone:
**Waste management gets clever as Grundon deploys robotics**

Date:
**October 2022**

Grundon has invested in the introduction of an Artificial Intelligence (AI) robotic picker to improve the sorting and recovery of plastic waste.

The AI-driven Fast Picker, supplied by robotic waste technology experts, ZenRobotics – a TEREX brand, has been installed at Grundon's Materials Recovery Facility (MRF) in Bishop's Cleeve.

The Fast Picker is fast and accurate as its AI is continually "learning" the types of plastic it is being trained to sort, adding increase accuracy and further boosts recycling rates. It can target and pick up to 80 items a minute with a recovered materials purity of up to 99 per cent.

Thanks to its AI capability, the robot can also be trained to sort objects both positively and negatively to remove unwanted contaminated objects.

Deploying sorting technology increases the amount of recyclable material Grundon can capture in its MRF, which means greater volumes of valuable raw materials can be returned into the circular economy.


Zenrobotics sorting robot

## CASE STUDY

ESA Member:
**Renewi plc**

Project:
**Development of Bulky Material Recycling Area**

Location:
**Barking, East London, for East London Waste Authority (ELWA)**

Milestone:
**Site improvements drive higher recycling rates in East London**

Date:
**October 2022**

Household waste recycling rates achieved by the constituent councils covered under the East London Waste Authority contract are amongst the lowest in the England. Renewi has worked collaboratively with ELWA and the four constituent councils within the contract area to improve them.

Together, they identified an opportunity to extract more recycling from the bulky material which the four councils deliver to Renewi's Jenkins Lane facility in Barking, which receives approximately 30,000 tonnes of this type of material each year.

The key obstacle to overcome was a lack of available space on site to allow for material sorting and segregation. To overcome this, an area of the site was redeveloped into a sorting area that allows for the mechanical separation of bulky material and the extraction of more recyclables. The redeveloped site received its first material on October 13, 2022 and initial results are very positive.

## CASE STUDY

ESA Member:
**enfinium**

Project:
**Kelvin and Skelton Grange**

Location:
**Sandwell, West Midlands and Leeds, Yorkshire**

Milestone:
**Construction commencement**

Date:
**2021 through 2025**

enfinium commenced construction at two energy recovery facilities - Kelvin and Skelton Grange - in the second half of 2021. Kelvin will process up to 395,000 tonnes of residual waste and use it to generate 44MW (gross) of baseload electricity per annum, while Skelton Grange will process up to 410,000 tonnes of residual waste and use it to generate 49MW (gross) of baseload electricity per annum. Combined, these facilities will produce enough energy to power nearly 200,000 UK homes and businesses once operational.

A render of the Skelton Grange facility under construction

## CASE STUDY

ESA Member:
**Encyclis**

Project:
**Newhurst Energy Recovery Facility**

Location:
**Leicestershire**

Milestone:
**Leading the way in APCR recycling**

Date:
**2022-2023**

When the Newhurst Energy Recovery Facility in Leicestershire comes online in 2023 it will receive up to 350,000 tonnes of residual waste every year, generating an estimated 42 megawatts of electricity in the process – or enough to power 80,000 homes.

But Encyclis and Biffa are going a step further to boost its sustainability and have partnered with global carbon capture specialist O.C.O Technology, which will apply its Accelerated Carbonation Technology (ACT) to recycle Air Pollution Control residues (APCr) produced by the waste treatment process.

The ACT process transforms the residues into an artificial aggregate – known as Manufactured LimeStone (M-LS). With more CO2 permanently captured than emitted in the manufacturing process, M-LS has been recognised in a United Nations Environment Report as making "a demonstrable contribution to the developing European circular economy".

Harnessing the pioneering capabilities of O.C.O Technology, Newhurst ERF will enable production of highly sought-after carbon negative aggregate, which is used in the manufacture of concrete blocks. Indeed, the facility itself will make use of some of these concrete blocks in its construction.

The Newhurst Energy Recovery Facility

## CASE STUDY

ESA Member:
**Viridor**

Project:
**Avonmouth Resource Recovery Centre (RRC)**

Location:
**Avonmouth**

Milestone:
**Viridor officially opened its' Avonmouth Resource Recovery Centre. A UK first, co-locating a plastics reprocessing and energy recovery facility (ERF) in one building**

Date:
**March 2022**


The Avonmouth Resource Recovery Centre was opened by Defra Minister, Jo Churchill MP

In March 2022, Viridor officially opened its Avonmouth Resource Recovery Centre. A UK first, co-locating a plastics reprocessing and energy recovery facility (ERF) in one building.

The ERF will divert 320,000 tonnes of non-recyclable household waste from landfill, generating over 300 GWh of electricity per year.

The plastics reprocessing facility will reprocess over 80,000 tonnes of plastic every year (more than 1.6 billion bottles, tubs, and trays) reducing UK plastic waste exports by c. 8%. This will save 126,000 tonnes of CO2 emissions per year, the equivalent of taking over 67,000 cars off the road.

The facility has created 125 new jobs, and over 500 people were employed onsite at the peak of its construction. Engaging 20 principal contractors during the build, it supported the local economy with 40% of orders being placed with firms from Southwest England and Wales.

## CASE STUDY

ESA Member:
**Cory Group**

Project:
**Northern Lights Partnership**

Location:
**London/Norway**

Milestone:
**Cory Group and Northern Lights announce pioneering international carbon partnership**

Date:
**May 2022**

Cory Group and Northern Lights announced a Memorandum of Understanding to collaborate on the realisation of a major carbon capture and storage (CCS) project between the UK and Norway.

Under the MoU, Cory Group and Northern Lights will explore the opportunity to ship carbon from Cory Group's EfW operations on the River Thames in London to Northern Lights' subsea carbon storage facilities in Norway. The partnership could help to create a blueprint for international carbon transportation and storage and the development of a global carbon trading market, as well as playing a vital role in Cory Group's planned CCS project, which has the potential to deliver 1.5 million tonnes of CO2 savings per annum by 2030.

If you would like to find out more about the Environmental Services Association, please visit **www.esauk.org**

A full directory of **ESA members** is available to view on the website

More information about the ESA team can be found **here**

For membership enquiries or to find out more about the ESA's working groups please contact Toni Waters by email at **t-waters@esauk.org**

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