MOTT MACDONALD

ESA Nature Positive Project

Technical Note

Project:	ESA Nature Positive		
Our reference:	100111290	**Your reference:**	TBC
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Approved by:	Julia Baker	**Checked by:**	Grace Peel / Dan Jacobs
Subject:	ESA: Nature Positive Process: Technical Note		

1 Supporting a Nature Positive Future

Mott MacDonald and WSP (MM-WSP) were commissioned by the Environmental Services Association (ESA) to develop a process for ESA members to support a Nature Positive future. This project involved interviewing ESA members to gather their views about barriers and opportunities associated with Nature Positive and produce a process that ESA members can follow to set Nature Positive targets and make progress towards these.

This technical note documents the activities undertaken by MM-WSP for this project and summarises outputs. The purpose of this technical note is for ESA to have a record of the activities undertaken by MM-WSP; it is not intended that this technical note is part of the Nature Positive process for ESA members.

1.1 Why is Nature Positive important?

The World Economic Forum (WEF)[1] estimates that directly or indirectly, approximately 50% of the world's gross domestic product (GDP) is dependent on nature at varying degrees. This emphasises the need to protect and restore nature, particularly by integrating nature within business operations to safeguard future economic growth. Furthermore, the world-renowned Dasgupta Review[2] illustrates that economies depend on healthy and resilient ecosystems and that tackling climate change can only truly be achieved by tackling biodiversity loss. The COP15 conference held in Montreal, Canada in 2022 cemented a landmark commitment to halt and reverse biodiversity loss by 2030 through the Kunming-Montreal Agreement[3]. This is echoed in the UK through the Nature Positive 2030 initiative spearheaded by the Joint Nature Conservation Committee [4]alongside other stakeholders. By recognising the essential value of nature as a core part of business and implementing strong governance for business targets on protecting and enhancing nature, the physical and commercial resilience of the company can be reinforced, while creating greater value for all stakeholders.

1.2 What is Nature Positive?

Nature Positive is a fast emerging concept and described, in a global context, by the International Union for the Conservation of Nature (IUCN), as being to:

'***Halt and reverse the loss of nature measured from its current status, reducing future negative impacts alongside restoring and renewing nature, to put both living and non-living nature measurably on the path to recovery***."

While various definitions of Nature Positive are emerging, reversing biodiversity loss and moving towards measurable nature recovery and regeneration are included in most.

An initiative called the 'Global Goal for Nature,' which is supported by various organisations, is calling for governments to adopt a Nature Positive goal at the international level, with countries, the private sector, communities and others contributing to this Nature Positive future. Other initiatives for Nature Positive are emerging, and the UK's Business and Biodiversity Forum[5] has published a 'Nature Positive Business Pledge[6]' that companies can sign up to. The pledge includes good practice principles that underpin a company's action and activities to becoming Nature Positive.

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[1] Why it's time to make your business become nature positive | World Economic Forum (weforum.org)

[2] The Economics of Biodiversity: The Dasgupta Review (publishing.service.gov.uk)

[3] https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222

[4] https://jncc.gov.uk/our-role/the-uk/nature-positive-2030/

[5] UK Business & Biodiversity Forum (business-biodiversity.co.uk)

[6] Nature Positive Business Pledge - UK Business and Biodiversity Forum (business-biodiversity.co.uk)

Nature Positive is now fast gaining traction, and it is expected that, just like net-zero targets, supporting a Nature Positive future will become a core business benchmark in the immediate future.

Terms

Often the terms Nature and Biodiversity are used interchangeably, although there are important differences between Nature and Biodiversity, which can be described as:

Nature	Includes all living and non-living components of the natural world, and the interactions between the two. Nature includes biodiversity (i.e. living organisms), as well as components like soil, rivers, nutrients, and climate (Science Based Target Network, 2020).
Biodiversity	The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems" (UN Convention on Biological Diversity, 1992).

1.3 Supporting a Nature Positive future.

The tasks of this project included:

- To interview ESA members and to host an on-line survey to gather their views on barriers and opportunities associated with Nature Positive
- For ESA members, to develop a definition of organisations that support a Nature Positive future.
- To recommend a baseline year for ESA members to measure change against activities undertaken to support a Nature Positive future.
- To illustrate a Waste Value Chain that best represents the main activities by ESA members.
- For each stage of the Waste Value Chain, to identify the associated broad impacts on nature.
- To produce a process for ESA members to use the Waste Value Chain to map their activities, identify the resulting broad impacts on nature that could occur from these activities and to rank these to gain an initial understanding of their greatest impacts on nature.

These tasks are documented in this technical note, with activities undertaken and a summary of outputs.

2 Defining an organisation that supports a Nature Positive future

An important starting point is to define an organisation that supports a Nature Positive future. Our definition for ESA members was developed based on the international definitions of Nature Positive, and the UKBFF Nature Positive pledge.

Our definition for ESA members is:

1. **An organisation that seeks an overall measurable net positive impact on nature that contributes towards local and national conservation targets. The impacts are all impacts on nature within the organisation's control, for example from its operations, offices and sites.**

2. **For impacts on nature that are outside of its control, the organisation proactively encourages and promotes a Nature Positive approach to those who can control those impacts, as well as promoting Nature Positive to others.**

The Nature Positive process contains FAQs about Nature Positive including:

Nature Positive involves all impacts on nature within the control of an organisation, but what does "impacts within our control" mean exactly?

Impacts on nature within the control of an organisation – this covers anything that the organisation can make a decision about within its operational control. This includes direct impacts on nature from site activities and operations, for example infrastructure built, equipment used and waste generated, as well as indirect impacts on nature through supply chains and the procurement of goods and materials, and through the type of transport used. It also includes impacts on nature from waste produced by the organisation.

Note that ESA members can have a positive effect on nature beyond impacts that are within their control. For example, some ESA members are involved with the prevention of waste, thereby preventing impacts on nature from the processing and disposal of waste.

The 'baseline year' is the year against which ESA members will measure progress towards supporting a Nature Positive future. A baseline year of 2020 aligns with international and UK Nature Positive targets[7] and approaches[8]. We recognise that, for many organisations, 2020 was during lockdowns for Covid19 and might not be representative of business activities today (and so would not be suitable as a baseline to measure change against). In the Nature Positive process, setting a baseline year is highlighted with advice on how to select the year.

The Nature Positive process for ESA members aligns the UKBFF Nature Positive principles in that there is not one overarching single Nature Positive target that applies to all ESA members. Rather, it provides a step-by-step approach for ESA members to set their own Nature Positive targets within a 'ratcheting up' framework. For example, from their baseline assessment, an ESA member commits to a relatively simple target that they review annually to increase their ambition over time. Targets can be process-based (e.g. the organisation publishes its Nature Positive policy) and outcome-based (e.g. an organisation achieves a 10% increase in nature on its sites by 2025).

The Nature Positive process also sets out how ESA members track progress against their 2020 baseline of impacts on nature and the cumulative negative impacts year on year, as well as the cumulative positive outcomes over time.

[7] G7 2030 Nature Compact - GOV.UK (www.gov.uk)

[8] Nature Recovery Joint Statement | JNCC - Adviser to Government on Nature Conservation

3 Waste Value Chain for ESA members

The Waste Value Chain is a visual illustration that best represents the main activities undertaken by ESA members for the waste and recycling industry. The purpose of the Value Chain is to support ESA members undertake a high-level assessment of their baseline impacts on nature; the Value Chain is not intended to be an accurate representation of all activities by ESA members. Rather, it is a way to engage ESA members in undertaking a high-level initial assessment of their impacts on nature as a start on their Nature Positive journey, and to better understand what it means for their companies to support a Nature Positive future.

The Value Chain comprises stages from the point of waste production through to treatment and offtake. The intention is to represent core activities of ESA members in order to provide ESA members with a pragmatic starting point to map their impacts on nature.

The Nature Positive process itself sets out how ESA members should map impacts on nature from all of their activities including upstream and downstream impacts. Emerging activities undertaken by some ESA members, which are not representative of the wider ESA membership, were also excluded from the Value Chain (such as consultancy) so that the Value Chain represent the main activities of ESA members. However, such emerging activities are covered by the process.

A draft of the Value Chain was shared with ESA for review and amended in response to comments. In addition, the Value Chain was tested during ESA member interviews and refined in response to comments and feedback.

The Value Chain is shown in Figure 2.1 with definitions of each stage in Table 3.1.

Figure 3.1: Visual illustration of a Waste Value Chain that represents the main activities by ESA members.

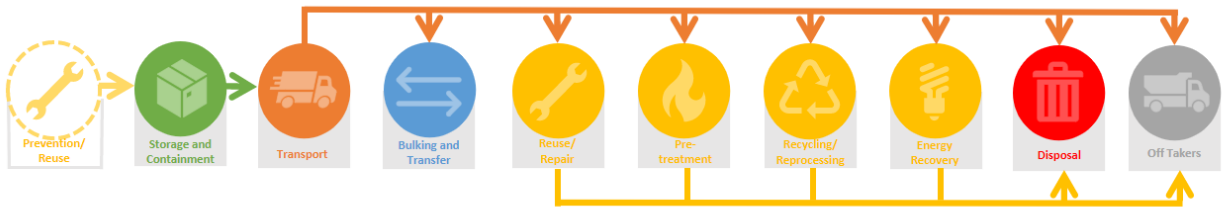


Table 3.1: Waste Value Chain definitions

Stage	Definition
Prevention/Reuse	First stage of the waste hierarchy to prevent waste entering the waste value chain. Examples could include: • Product redesign / waste prevention through elimination of avoidable wastes, e.g. single use plastics • Waste prevention through sustainable/green procurement or reverse logistics • Reuse of products through return scheme or reuse marketplaces.
Storage and Containment	Temporary placement of waste in a suitable container, receptacle, storage area, location or dedicated facility prior to onward transport for treatment.
Transport	Take or carry material or people from one place to another. Transport to or between transfer and treatment, (repair/reuse, recycling, reprocessing, energy recovery and disposal) facilities does not happen in a set order and can be carried out interchangeably between stages in the waste value chain subject to flow of waste and material types.
Bulking and Transfer	Consolidation and aggregation of waste. This usually occurs at dedicated transfer facilities, where material is unloaded, compacted (where appropriate) and reloaded into larger bulk haulage vehicles

Stage	Definition
Repair and Reuse	The action or practice of preparing or using an item or material again in its existing or original form, whether for its original purpose (conventional reuse) or to fulfil a different function. Examples could include: • Repair of waste electrical and electronic equipment (WEEE) for resale • Repair of furniture for resale
Pre-treatment	Activities to remove contaminants/ hazardous components prior to subsequent treatment (disposal or further processing). May include the recovery or extraction of recyclables or commodities from a mixed feedstock. Examples could include: • Dirty/Clean/Construction and Demolition (C&D) Materials Recovery Facility (MRF) including those which separate co-mingled waste into separate streams. • Mechanical Biological Treatment (MBT) facility
Recycling and Reprocessing	The process of breaking down materials and converting into new products in a dedicated facility. Examples could include: • Reprocessing of separated recyclables (such as glass, paper and metals) • Production of refuse derived fuels (RDF) or solid recovered fuels (SRF)
Energy Recovery	The process or act of conserving, extracting or recovering energy (electricity and/or heat) from materials or waste. Examples could include: • Energy from Waste (EfW) activities • Anaerobic Digestion activities • Landfill gas extraction and utilisation
Disposal	Removing, destroying, or storing indefinitely end of life material or residues. Examples could include: • Hazardous/Non-hazardous landfill/Inert landfill • Incineration without energy recovery
Off-takers	Organisations that receive and transport waste, secondary products, recovered materials or commodities recovered from waste treatment and recycling processes. May include waste brokers and exporters.

When ESA members map their activities and waste streams on the stages of the Value Chain, they will also use a scale to broadly rank the magnitude of each activity they undertake. The scale has these categories:

- 0: we do not undertake this activity
- 1: we undertake minor levels of this activity
- 2: we undertake moderate levels of this activity
- 3: this is our main activity

For those members at a more advanced stage in their Nature Positive journey, the advanced Value Chain can be used which incorporates key waste types on a vertical axis. The waste types are not exhaustive, however intended to cover the core waste streams that ESA members will be involved with, as follows:

- Residual;
- Garden and food;
- Bulky;
- Recyclables;
- WEEE and batteries;
- Clinical and healthcare; and
- Other hazardous.

Note:

In this context: **Upstream impacts** are defined as everything that went into the production of the material before it reaches an ESA member, such as the extraction of natural resources and transportation. **Downstream impacts** are defined as everything that is undertaken to the material after it leaves an ESA member and is in their direct control.

4 Broad types of impacts on nature

A literature review was undertaken to identify broad types of impacts on nature from each stage of the ESA Value Chain (see footnote for references). This first identified general environmental impacts from waste and recycling activities, such as litter, fire, dust, and leachate/contaminated water production.

The direct and indirect impacts on nature that could result from these broad environmental impacts were subsequently determined. For example, if litter contaminates waterbodies and dust causes air pollution; both could degrade habitats over time which could then cause a loss of resources for wildlife, which in turn could lead to (or add to other factors that lead to) a decline in wildlife populations.

There were a number of limitations to the literature review such as outdated sources, limited sources on certain Value Chain stages, amongst others. The main limitation was a lack of data specifically on impacts on nature from stages in the Waste Value Chain e.g. impacts caused by air pollution on local wildlife populations[9] were hardly considered e.g. physiological changes to fauna[10] , whereas there was a significant amount of research on the impacts of air pollution on human population caused by the storage of waste.

As a result, findings from the literature review were combined with expertise and knowledge within the team to populate a table for each stage in the ESA Value Chain with the potential environmental impacts and associated impacts on nature.

Litter was a potential environmental impact in each stage in the Value Chain, with the associated direct impact on nature being potential land and water contamination. This could then lead to habitat degradation through introduction of toxic/harmful wastes into the land and water environmental pathways, with the possibility of reducing resources for wildlife (thereby making them more vulnerable to disturbance) or causing harm and/or death to wildlife from pollution or ingestion of litter.

All of this information was compiled into the 'ESA Mapping Impacts on Nature Toolkit'.

5 Interviews

The MM-WSP team undertook interviews with five ESA Members representing a range of activities undertaken (Biffa, Enfinium, EMR,SUEZ and Veolia) (Table 5.1). This was to gain a deeper insight on their understanding of the Nature Positive definition and understand any barriers and opportunities their businesses may face associated with Nature Positive.

Table 5.1: Interviewees and company job titles.

Company	Interviewee	Company Job Title
Biffa	Connie Turner	Group Sustainability Manager
	Vicky Clack	National Environmental Control Manager
	Matthew Watson	Energy and Carbon Manager
EMR	Seamus Breen	Waste and Environmental Impacts Manager
	Guy Mercer	Group Sustainability Director
Enfinium	Phillip Curds	Head of ESG and Sustainability
	Jamie Williams	Safety Health Environment Quality (SHEQ) Manager

[9] Air-Quality-advice-note.pdf (cieem.net) – professional advice used by ecologists.

[10] Review article: Epidemiological and animal evidence for the role of air pollution in intestinal diseases - ScienceDirect

Company	Interviewee	Company Job Title
Suez	Leigh Broadhurst	Environment and Sustainable Development Lead
	Adam Read	Chief External Affairs and Sustainability Officer
	Stuart Hayward-Higham	Chief Technical Development and Innovation Officer
Veolia	Madeline Hall	Senior Sustainability Policy Manager
	Mark Smith	Director of Environmental Permitting and Control

Upon discussions, the current understanding of all interviewees for implementing Nature Positive processes were based on on-site biodiversity improvements which has been incorporated within the process. However off-site improvements were less commonly discussed.

Some of the common barriers identified were limitations to business aspects not under direct control of the ESA member; a lack of skills and competencies within the ESA member workforce for Nature Positive related processes due to varying company workforce sizes and a varied level of understanding the meaning of the Nature Positive definition.

Some of the common opportunities determined included using this process as an opportunity to upskill staff in sustainability related aspects, using partnerships and collaborations to create opportunities and innovation raising awareness for the Nature Positive process. Nonetheless improving company reputation was not adhered to as a possible opportunity.

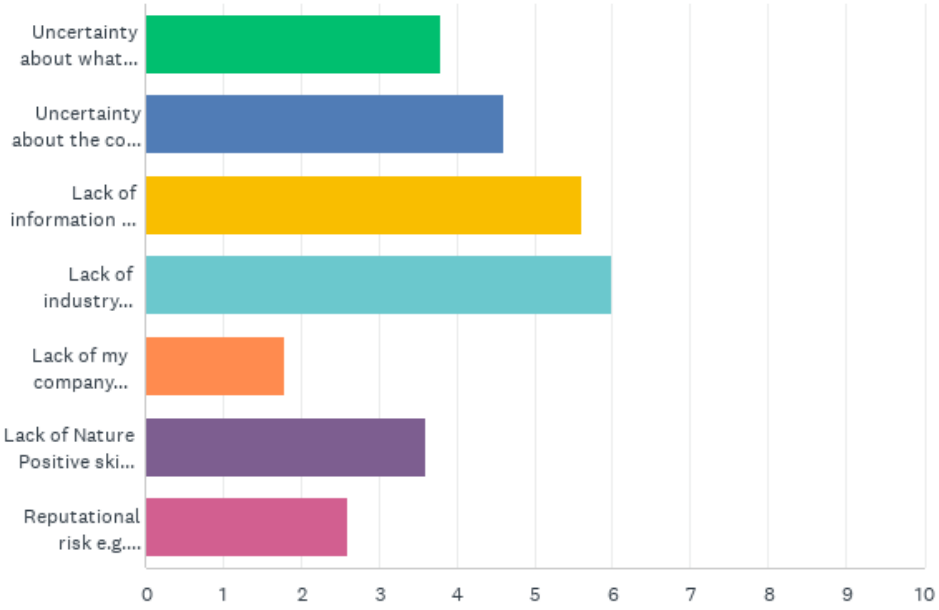
6 Online Survey for ESA members

To obtain further inputs from ESA Members not interviewed, an online survey was set up to gain additional views on the Nature Positive definition and on barriers, issues and opportunities associated with Nature Positive. A total of 6 responses were received.

The responses included companies undertaking a range of activities across the Value Chain, with 5 stating they were clear on the definition of Nature Positive, however only 3% having a good understanding of how their companies can support a Nature Positive future. This indicated a lack of an engaging and a practical process the ESA members can apply to their work operations.

Lack of information on Nature Positive actions and the lack of industry standards on good practice were identified as the top barriers and issues for ESA members (Figure 6.1). Furthermore, fears of greenwashing and possible conflict with other internal priorities were expressed as barriers too.

Figure 6.1: Barriers and issues that ESA members face associated with Nature Positive



Most responses indicated improving the company reputation was the top-most opportunity identified alongside increasing staff skills, awareness and competencies. Wanting to be leaders in the 'ecological transformation' due to the waste industry eyed as 'dirty', it indicated a desire by all participants to internally bring up the agenda on biodiversity.

From all discussions with ESA and ESA members, the main change to this process was to re-frame the process from "becoming Nature Positive" to "supporting a Nature Positive future". This reflected not only the early stage across industry to develop such a process, but also the fast-emerging learning on how companies such as ESA members can best support Nature Positive initiatives.

7 Summary

Information gathered from all the tasks described above were used to produce the

- **ESA Mapping Impacts on Nature Toolkit.**
- **Supporting a Nature Positive future: a process for ESA members.**