CIA

CHEMICAL INDUSTRIES ASSOCIATION

Where to start on your sustainability journey

A SIMPLE GUIDE FOCUSED ON THE UK CHEMICAL AND PHARMACEUTICAL SECTOR, FOCUSED ON COMPANIES WITH LIMITED RESOURCE. THE INTENTION IS FOR THIS TO BE A LIVING DOCUMENT, UPDATED ACCORDINGLY IN VIEW OF DEVELOPMENTS.

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RESPONSIBLE CARE

Chief Executive's Foreword

Here at the Chemical Industries Association, we began our formal work on sustainability nearly 20 years ago in 2004, publishing our first sustainability programme, based around guiding principles and key metrics. Our longer-standing and continued efforts on driving health, safety, security and environmental performance improvement – enshrined within our Responsible Care programme – provided us with the essential building blocks to give tangible meaning to sustainable development at the time and today that programme remains a powerful vehicle for delivering on our wider sustainability objectives.

Since 2004, the prominence given to sustainability across politics and society has changed considerably and CIA's membership has responded accordingly. That response continues to evolve and this specific guidance has been written by CIA's Sustainability Steering Group in order to broaden the visibility of some of the best practice undertaken and shared within that group. We want to use this guide as a platform for engagement with businesses that are at earlier stages of their sustainability journeys.

Each and every stakeholder has a role in transitioning to and building a more sustainable society. Collaboration and, in particular, peer support and learning are central to that and many of the companies involved in the drafting of this document have benefited directly from sharing experiences – good and bad – with one another. In this guidance, we provide some suggestions for those first and subsequent steps towards building a sustainability programme – steps which we appreciate can be daunting for smaller businesses in particular, given resource constraints.

This document also signposts readers to some key materials alongside several examples from member companies to demonstrate real-world approaches. CIA stands ready to continue its leadership of the UK chemical and pharmaceutical industry and support members in navigating the increasingly challenging business environment. I hope you and your business find this guidance useful and do please get in touch with any queries, suggestions or feedback.

Steve Elliott, Chief Executive of the Chemical Industries Association

Contents

"Sustainability is a refreshing and reinvigorating way to look at the world, it brings challenges that can quickly become opportunities to deliver value for the organization while meeting the needs of a broader set of stakeholders and futureproofing your business."

Maurizio Abbondanza, Business Growth & Sustainability Director, Infineum UK Ltd

"It's never too early or too late to start work on making a bigger positive impact to planet and society through business, our customers and consumers are looking for suppliers to help them make a difference."

Phil Ruxton, Chief Sustainability Officer, Croda International Plc

"Bringing sustainability to the forefront of business practises brings many opportunities and long-term value to an organisation. With increasing customer, investor and employee focus on sustainability, having a strategy and program in place is vital for all companies, as is the effective communication of your progress in this area."

Helen Coy, Group Sustainability Manager, Innospec Ltd

"…to succeed in addressing our climate and nature crises requires people from all nations, background and sections of society to work together. No plan of action to address these challenges can avoid this fact. It is imperative that at the heart of any plan you maximise the diversity of the people tasked to deliver it."

Simon Grant, Technical Director, Thomas Swan

Part 1 Getting Started – building the business case and initial actions

There are a number of different terms used in business to describe sustainability including Corporate Social Responsibility (CSR); Responsibility; Sustainable Development (SD); Sustainability; People, Planet and Profit (3P's); and Environment, Society and Governance (ESG). The terms are broadly interchangeable, but what sustainability means is different for each organisation and depends on the specific requirements and activities of an organisation and its stakeholders. This guide aims to explain some of the approaches available to help translate the topic into practical organisational priorities, actions and plans.

CIA members report a host of benefits to designing and establishing sustainability programmes, including:

i) cost savings through increased efficiencies

ii) creating additional shareholder and longer-term value

iii) deepening relationships and winning new business as customer sustainability demands are met

iv) opening up new markets and identifying new products

v) responding to public opinion and staying ahead of legislative developments

vi) improving reputation and stakeholder relationships

vii) attracting and retaining talent as sustainability credentials become increasingly important to prospective employees

The reasons for addressing sustainability expand much beyond the above, as does the science upon which the topic is founded. For example, in recent years investment funds that incorporate Environmental, Social and Governance (ESG) factors have generally outperformed those that do not. This is in part leading to substantial finance sector policy and products designed around ESG, in turn impacting shareholders and the ability to attract capital. The reasons behind why sustainability challenges themselves need addressing are not explored in detail here. However, further resources can be found at the end of this guidance.

Below is a checklist for initial actions. Note that some of these steps warrant a dedicated guidance document. Where that is the case, further information is provided in Part 3.

	Action	Explanation
1	Establish baseline understanding of what sustainability is	Familiarising with contemporary topics is a good place to start and further information is included in Part 3 of this document. For example, the United Nations Sustainable Development Goals are 17 interlinked goals, defined by countries, that include numerous targets and indicators across a range of global issues. The goals themselves aim to achieve a better and more sustainable future for all and are a good first layer of information to understand. Similarly, the 4-pillar approach is a useful explainer: economic prosperity; social inclusion and cohesion; environmental sustainability; and good governance. There are multiple definitions of sustainability and ultimately the definition for your business will likely be unique, influenced by your stakeholders and activities, and will evolve over time. The formalised process to established this is through a materiality assessment (more information in Action 5 below). Specific training may be useful as necessary skills and knowledge are identified. However, it is worth noting that sustainability is still a relatively new profession, and many existing professionals began their endeavours with little or no dedicated training in corporate sustainability.
2	Demonstrate why sustainability is good for your business	Creating a business case is an important step when communicating with senior leaders and the executive team, particularly where resources are constrained and justifying time and expense is critical. Tailor the 7 benefits listed above to the activities and, if possible, the wider purpose of your business beyond sales and profit.

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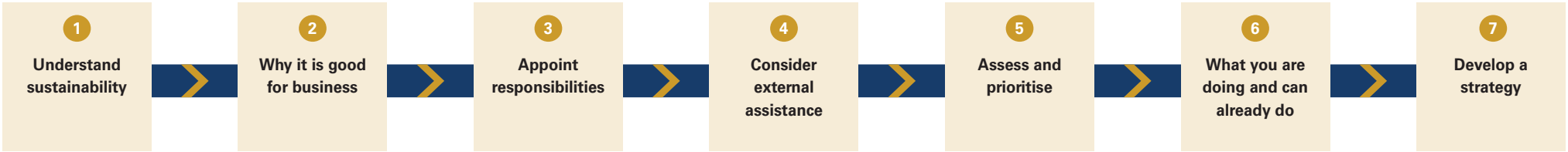
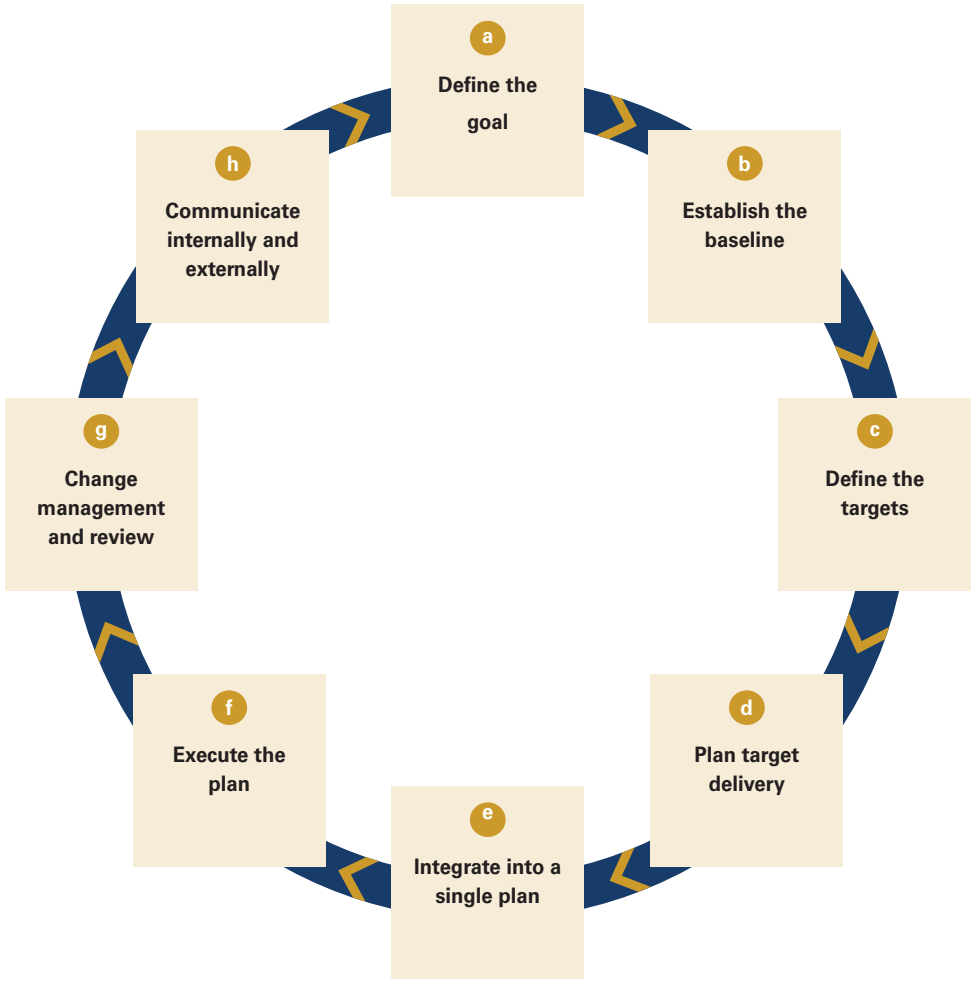


3	Appoint responsibilities for sustainability	The exact distribution of responsibilities will vary by company. Tackling sustainability requires multidisciplinary skills, all of which may or may not initially be accessible to one individual. In general, you should consider the following: championing sustainability through communication and senior leadership buy-in (usually best suited to managers and leaders); technical capabilities covering data collection, analysis, policy, and legislation (usually present in Environmental, Health and Safety professionals); and business acumen and understanding (usually developed through sales and marketing experience). Part of the role of sustainability professionals can be thought of as building the brand of a company and marketing the company as a whole (contrasted with selling specific products) while also aligning company activities with the bigger picture and improving impacts through iterative processes and organisational change. Ultimate ownership by the CEO is strongly recommended to enable sufficient prioritisation and decision-making.
4	Consider outsourcing expertise and third-party services	Most of the expertise required to begin the sustainability journey can be located or developed in house, at least to some degree. However, consultants play an important role and possess specific expertise, allowing programmes to develop more quickly and thoroughly. Most companies make use of some level of third-party service, which can be useful early in the development of a programme or at a later stage to take it to the next level. Smaller companies will often appoint sustainability responsibilities to a single person who may also be expected to continue with existing functions. Leadership should take note that launching a sustainability programme is no small undertaking, it can take time before tangible outcomes are realised and external assistance may be necessary. Peer learning is also integral to the development of sustainability professionals and CIA member contacts contained within this document are happy to discuss their approach with you to assist in your journey, like others have helped them in the past. Trade Associations can be a useful resource and often have dedicated groups for this purpose e.g. CIA's Sustainability Steering Group that instigated this guidance.
5	Assessing and prioritising aspects of sustainability – Materiality Assessment	One unavoidable term of jargon is 'Materiality Assessment'. This is essentially the process of identifying what sustainability means to your business and all stakeholders by canvassing, discussing, engaging, and prioritising. Materiality can be aligned with existing processes through the lens of expanding the scope of risks and opportunities considered. The complexity of a materiality assessment varies considerably depending on the needs of a company and the maturity of the sustainability programme. Particularly for smaller companies, a good first step is to conduct desk-based research of the sustainability reports produced by a range of other companies. A good breadth would include global leaders, competitors, customers, and suppliers. This can result in a long list of topics (AKA material aspects) that may be relevant to your company's operations. Prioritising the long list is important to ensure that resource is focused on the most important aspects to your company and stakeholders. It is important to acknowledge that your company will not be able to address everything at once and that it takes time to build a robust, comprehensive programme, which makes forward planning particularly important. Acting too late may result in issues emerging that require substantial time to address. The prioritisation step (and identifying any additional topics) should involve your major stakeholders, inclusive of employees, leaders, customers, suppliers, owners, investors, local communities, regulatory agencies, and charities/NGOs. Examples of materiality assessments and resources are provided in Part 3 of this document. Spending time on the materiality assessment is important. However, it can initially take the form of a lighter version at the beginning of a programme provided that the approach is robust enough to capture the highest priority topics that can be built on in the future.
6	What you are doing and can already do	Conduct by a gap analysis to classify what, if anything, your company is already doing in your identified priority material areas. This approach could be as simple as a traffic light system with green = good existing activities ready for external communication; amber = some action but more is needed; and red = no action or unfavourable impacts and trends. For example, every chemical company will already have policies, procedures and data collection systems in place (e.g. safety, environment and other legislative requirements). If you are under immediate pressure to communicate more on sustainability, you may already have enough 'green' to put some information on a webpage and explain that your approach is evolving. This step is also useful to demonstrate internally how the work is progressing.
7	Develop a sustainability strategy over the short- to medium-term	Once you have begun acting on the 'low hanging fruit' identified above, a more detailed plan needs to be developed to address the collective and potentially more challenging aspects. The approach to this is described in the next section. For example, your company might have reasonable existing information on scope 1 Greenhouse Gas (GHG) emissions relating mainly to carbon dioxide arising from fuels you burn on-site and from process emissions. However, more comprehensive endeavours may require a work programme e.g. for scope 3 GHG emissions, it's necessary to quantify emissions such as those from staff commuting activities, which is generally more difficult due to the availability of and access to that data.

Part 2 Developing a Strategy – a process and what to consider



Note that this process is not strictly stepwise. Some barriers may mean that parts of the process are not possible for all aspects of the sustainability programme and to continue progressing, moving to the next stages may be necessary. This approach is akin to the plan, do, check, act approach that is present in the ISO series, but tailored to formulating a sustainability programme.

a **Define the goal** – based on the priority topics identified in the materiality assessment and by looking specifically at the sustainability goals set by other organisations for your priority topics e.g. global leaders, customers, suppliers and industry competitors. The goals are the broad sustainability areas that you want to progress. Cross-reference the development of your goals to the United Nations sustainable Development Goals, including specific targets where appropriate.

b **Establish the baseline** – by collecting data and information required to measure progress towards the goals. Sustainability is relevant to almost all aspect of the business. Data collection can in some cases be challenging. Bringing together information that ranges from that traditionally held by HR (e.g. diversity, employee numbers and longevity of service), the company secretary (e.g. anti-corruption) and production teams (e.g. resource efficiency), etc. You may also find that you do not have adequate or any existing information for a given goal and therefore will need to embark on building the data in those areas.

c **Define the targets** – set the level of ambition you want to achieve over what timeframe(s). In general, feedback from stakeholders suggests that setting an ambitious target and not meeting it for good reason is preferable to setting targets that are easily achieved and that might fall into a business-as-usual category. For targets where you have good existing data, determining the level of ambition to be achieved by what date is less difficult than it is for targets where data and baselines are lacking. Regarding the latter, you may not necessarily know the size of the change needed and so there may be a high level of uncertainty when setting the initial target itself. This uncertainty reduces with time and targets can be revised provided the basis for doing so is sound. Each goal may relate to several targets that themselves may be drawn from multiple data sources. Good practice is to generally set targets based on recent baselines. However, inclusion of older data can also be useful to demonstrate historic progress, particularly to show trends where annual fluctuations are common. Initially setting targets to be achieved within a few years' time is usually appropriate. Targets with longer time horizons should also be accompanied by interim targets to ensure that the implications of the final destination are not delayed until a later date. Achieving some targets may be relatively straightforward and the business case may be very clear (e.g. cost savings due to increased energy efficiency). However, other targets may require more transformative changes within the business and as such involve upfront investments that reduce exposure to risk in the future.

d **Plan target delivery** – identifying the actions that will take forward the performance of your business to achieve the specific targets. Some areas will be less obvious than others, which will take time to develop understanding of what is required and what the options are.

e **Integrate into a single plan** – an important step for maintaining a strategic overview of your sustainability programme, as well as board-level and other leadership team reporting and will help to form the basis of external communications when appropriate.

f **Execute the plan** – enact the policies, procedures, resources, investments, and other activities that are required in order to achieve the targets and meet the goals within the timeframes required to meet deadlines.

g **Change management and review** – some actions to execute the plan may later require significant change, the impacts of which need to be handled carefully and sensitively. Instigating cultural change can be achieved in several ways. For example, creating competition between different business units or production sites towards achieving targets can accelerate progress and employee engagement. The plan should be monitored continuously and reviewed periodically. The natural milestone for updating the programme is usually in the lead up to deadlines for targets at which point new targets are devised to replace the previous targets. This often involve conducting a new materiality assessment to account for any changes to company activities, stakeholder expectations, science, technology, capabilities, and to materiality itself as more advanced and robust approaches can be implemented. Those with specific responsibilities for sustainability cannot complete all of the work needed under a sustainability programme. Motivating and delegating work to other job functions is critical to success while retaining an oversight and coordinating role to ensure a holistic approach and to promote best practice.

h **Communicate internally and externally** – internal communication throughout is key to the success of sustainability programmes from leadership reporting to surveying employees during the materiality assessment. Explaining the collective programme to all employees promotes change management and motivates employees to engrain sustainability into all aspects of their jobs. Sustainability is not something to do but, rather, it is a way of doing things. There are various degrees of external communication and the decision on extent will depend on the maturity of the sustainability programme and how much scrutiny is anticipated. Smaller companies may choose an approach of a fold-out leaflet or scorecard, which can avoid the level of resource to produce a comprehensive document with substantial explanatory text. The gold standard is generally viewed to be reporting in line with an international framework (e.g. the Global Reporting Initiative) and having that report externally verified by a third party. That might not be appropriate for some companies and others may need some time before reaching that stage. While a sustainability report may be central piece for the entire programme, parts of the report can be broken down into specific web pages and other more user-friendly materials dependent on the intended audiences.

Part 3 Signposting to Useful Resources and Initiatives

References are included here based on the experience of CIA's Sustainability Steering Group. Please note that this section is not intended to recommend one resource over another but instead provide a starting point to access information that is currently available and potentially useful for those embarking on sustainability programmes. This compilation is by no means exhaustive and the approaches selected will depend on the needs of individual companies, often dictated by which markets they are exposed to and what sectors they are involved in. CIA will aim to update this list periodically in view of the fast-paced developments in this space.

General sustainability and business information

Resources to help bring you up to speed and keep your finger on the pulse

Cambridge Institute for Sustainability Leadership (CISL): Offers a range of training services and publishes materials across a variety of sustainability topics.

Edie: Sustainability news and commentary.

We Mean Business Coalition: Non-profit coalition working with business to tackle climate change.

World Business Council for Sustainable Development: Publishes sector-specific and general guidance across a host of topics including UN SDGs, Life Cycle Assessments and Climate.

Energy Live News: Concise articles focused on but not limited to energy matters.

Sustainability training providers

A selection of options to increase skills and broaden knowledge

Cambridge Institute of Sustainability Leadership: Provides a range of courses related to sustainable business from executive leadership and masters qualifications to certificates.

CIA training courses: CIA events cover all aspects of operating chemical and pharmaceutical businesses in the UK. In such a heavily regulated sector there is an emphasis on Health Safety and Environment training, but CIA covers a range of other relevant topics including energy efficiency, regulatory tools, business, etc.

Edie webinars: Free on demand and live webinars across a range of topics.

United Nations Sustainable Development Goals

General and sector-specific resources on the global context

United Nations SDG website: Access the goals themselves and the original Agenda 2030 agreement, including updates and progress reports.

WBCSD Chemical Sector SDG Roadmap: Including a materiality assessment and prioritisation of ten goals identified as particularly relevant.

UN, GRI & WBCSD SDG Compass: A simple tool including the first steps towards addressing the UN SDGs.

Reporting frameworks and guidance

Globally recognised approaches to key performance indicators, communication and strategy

Global Reporting Initiative (GRI): Comprehensive standards for sustainability reporting of impacts on business and vice versa with various levels of certification available, includes approaches to materiality, the UN SDGs, etc.

International Sustainability Standards Board: Formed after COP26 (UK hosted UN Climate Conference) to create globally agreed sustainability standards, initially focused on climate.

Value Reporting Foundation: Founded in November 2021, brings together both SASB and IR below in the strive for harmonisation of sustainability reporting relevant to value creation and particularly designed to inform the financial sector.

Integrated Reporting (IR): Combined sustainability and financial reporting based on value and capitals.

Sustainability Accounting Standards Board: Connects business and investors on the financial impacts of sustainability.

ISO series e.g. 5001, 14001, 14040, 24000, 26000, etc.: Energy Management, Environmental Management Systems, Life Cycle Assessments, Sustainable Procurement, Social Responsibility, etc.

Taskforce on Climate-related Financial Disclosures (TCFD) Recommendations: Established by the Financial Stability Board, sets guidelines that are becoming mandatory to varying extents in many regions focused on Governance, Strategy, Risk Management, and Metrics and Targets.

Rating and Ranking Agencies

Provide information to investors and other stakeholders based on Environmental, Social and Governance performance to be used alongside financial performance when taking investment decisions

EcoVadis: Applicable to SMEs as well as large businesses – supply chain focused sustainability assessments and questionnaires including ratings.

Dow Jones Sustainability Index, S&P ESG Index and Yearbook: Ranks large companies based on a Corporate Sustainability assessment.

FTSE Russell indexes e.g. FTSE4Good: Integrates ESG and investment considerations including ratings and analytics.

MSCI ESG Indexes: World's largest provider of ESG indices to help investors benchmark and report.

Sustainalytics: ESG research and data, serving the world's leading institutional investors and corporations.

Chemical industry collaborations and initiatives

Developed by industry, for industry to respond to a range of challenges

CIA Responsible Care Programme: Programme including principles that drive continuous improvement in performance across Health, Safety, Security and Environment (HSSE). Includes site-level principles, benchmarking, good relevant practice, verification, self-assessment, guidance, regional meetings of HSSE professionals and more. Implements the Global Responsible Care Charter and is a condition of CIA membership.

Roundtable on Sustainable Palm (RSPO): Not-for-profit that unites stakeholders from the 7 sectors of the palm oil industry to develop and implement global standards for sustainable palm oil.

CIA Sustainability Programme: Managed by CIA's Sustainability Steering Group, sets the sustainability vision for the UK chemical industry, reports metrics, produces case studies, horizon scans, addresses policy, runs conferences, etc.

Cefic Sustainability Programme: European Chemical Council approach to sustainability including the ChemistryCan initiative.

Product sustainability

Focused on chemical technologies

ICCA How to Know if and When Its Time to Commission a Life Cycle Assessment: Introduction to LCAs and signposts to available resources.

WBCSD Portfolio Sustainability Assessment (PSA): Methodology to proactively steer product portfolios towards improved sustainability performance.

GHG emission measurement, reporting and Net Zero Targets

More specific information related to climate mitigation

UK Government Net Zero Strategy: Sets out the overarching policy framework for the UK to achieve NZ GHG emissions.

Science Based Targets initiative: NGO coalition that validates GHG reduction targets, including for Net Zero ambitions, by aligning with temperature pathways, recent baselines and includes annual absolute reduction targets. SMEs are not required to fully assess scope 3 (up- and downstream) emissions.

The Climate Group (RE100, EV100, EP100): Manages several initiatives that seek to drive Renewable Energy (RE100) to zero carbon electricity grids by 2040, accelerating the transition to Electric Vehicles (EV100), and Energy efficiency Potential (EP100).

The Carbon Disclosure Project: Focused on helping organisations to manage their impacts and disclose on Climate, Water and Forests.

SME Climate Hub: Provides SMEs with the opportunity to make an internationally recognised climate commitment which is aligned with the latest climate science. SMEs that make the SME Climate Commitment will be recognised by the United Nations Race to Zero campaign.

Nature, Biodiversity and Land

More specific information linking the nature and climate crises

Science Based Target for Nature: This is a relatively new initiative that builds on the success of the SBT initiative for climate, recognising the challenges facing nature. Whilst resources are currently limited, their ambition is to for companies to also set targets by 2025 on water, land, ocean and biodiversity, contributing to the UN SDGs.

Taskforce on Nature related Financial Disclosures (TFND): A new global initiative which aims to give financial institutions and companies a complete picture of their environmental risks.

More CIA Resources

Relevant CIA materials not already included above

Numerous policy networks, issue teams and strategy groups: Covering climate change, energy, chemicals management, trade, communications, politics, economic growth, sustainability, environment, security, health and safety, employment – each managed by expert CIA staff and open to CIA members. Some pages include free guidance and others are reserved for members.

CIA Associate members: Associate Members are those that provide a service to chemical companies. Members have the opportunity to promote their business through CIA networks and demonstrate their expertise to companies.

Part 4 – Case studies

Additional case studies centred around CIA's vision for a sustainable future can be found on our website

Innospec case study

Innospec approach to materiality assessments

Listening carefully to the concerns of stakeholders helps companies respond quickly to changes in market demand, product requirements, regulation and other issues that might affect them. That is why we spend time building relationships with our customers, suppliers, investors, employees and the communities that are close to our sites. We want to identify what matters most to them. This input underpins our sustainability strategy and reporting processes.

A materiality assessment is a method used to engage with stakeholders to identify how important specific sustainability issues are to them. The outcome can then be used to guide a company's sustainability strategy and communication used, to ensure that it targets the identified topics that matter most to its stakeholders. At Innospec we conducted our first formal materiality exercise in 2017 and our second in 2021. The approach we used is outlined below.

1. Identifying Stakeholders

The first step is to identify your stakeholders. These will be similar for most chemical companies. At Innospec we identified two key groups of stakeholders.

- Internal; Employees (different levels of the organization, different functions and different regions) and;
- External; Customers, Investors, Supply Chain Partners, Governance and Regulatory Organizations, Community Members, Non-Government organizations and Sustainability Organizations and Advisors.

2. Engagement with Stakeholders

Early engagement with stakeholders is important to identify those that are willing to participate in the exercise. We developed a materiality exercise briefing note which outlined the process and how their insights would be used to help inform our sustainability strategy. This was used to invite internal and external stakeholders to take part. We ere then able to create a list of stakeholders willing to participate.

3. Identification of Sustainability Indicators

At Innospec, we developed a list of 25 sustainability issues across a range of ESG categories based on the Future Fit Business Benchmark model. This is a forward-thinking model that aims to outline what a business needs to achieve for success in a changing world. Sustainability issues however can be selected from a number of other sources such as GRI, SASB and CSR Europe.

4. Materiality Study Design

Both internal and external stakeholders were given the list of 25 issues and asked to:

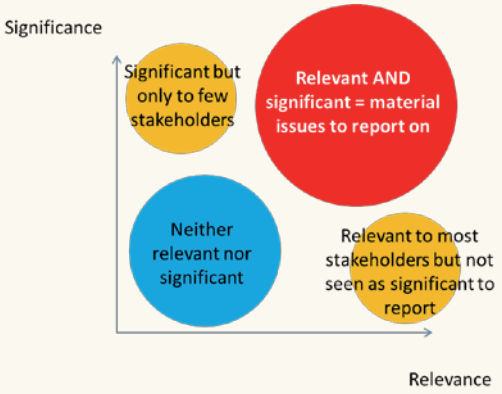
- Firstly, select which issues Innospec should be focusing on upto a maximum of 10.
- Secondly, for the issues selected only, rank the top five from 1-5 based on their significance (1 most and 5 least).
- Return their selection for analysis.

We used two different engagement techniques for internal and external stakeholders. For our external stakeholders we used an interview style approach using a third-party consultancy to assure them of anonymity of their responses if required. It also enabled us to obtain qualitative feedback on our sustainability programs and annual Responsible Business Report.

For our employees we ran two workshops. The first to introduce the concept of sustainability and materiality and the second to discuss the output of the exercise.

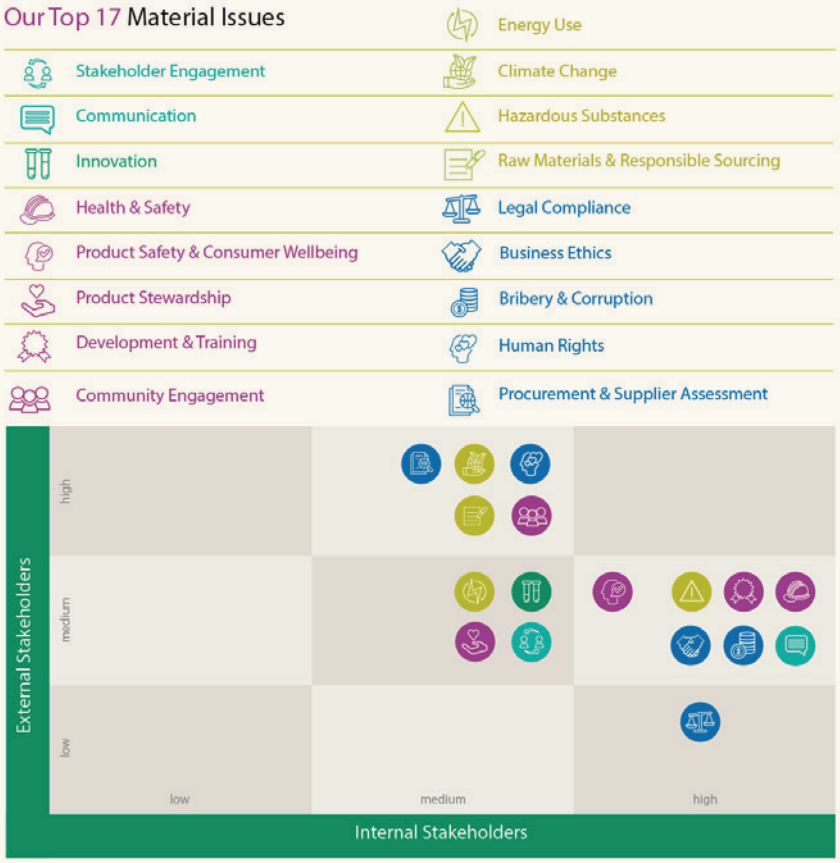
5. Analysis of the insights

The assessment of material issues to stakeholders as detailed in section 4 above meant that the assessment analysis can be based on both the number of stakeholders who identify a particular issue as being relevant and also the average significance the stakeholders assigned to that issue. In this context 'relevance' is the frequency with which any given issue is said to be material by respondents, while 'significance' is the perceived importance of that issue. For an issue to be material, it must be relevant and / or significant above certain thresholds. It is a combination of these two elements (ie the red zone on the graph below) that determines which issues are most likely to be material.



The output of the analysis is presented in the form of a Materiality Matrix Graph which shows how each indicator ranks in significance to both internal and external stakeholders importance.

Innospec case study – *continued*



6. What next

We use the outcome of the materiality assessment during the periodic review of our sustainability strategy, targets and actions to make sure they remain meaningful and relevant to our stakeholders. We openly share the results of the assessment with stakeholders in our annual Responsible Business Report. The indicators selected by our stakeholders form the framework for the information presented in the report.

In summary, materiality assessments do take time and resources to complete, however for Innospec they are invaluable in making sure we are directing the company's efforts in the areas that matter most to our stakeholders and communicating our performance in these areas to them.

Infineum case study

Setting our goals

To deliver our strategy, we set new sustainability goals that focus our performance in the areas that matter most to our stakeholders, and where we believe we can make the greatest difference.

1) **Materiality assessment:** To ensure we focused our goals on areas that matter most in helping drive the future success of a sustainability agenda for Infineum, we conducted a materiality assessment with the help of a third party, and in accordance with the Global Reporting Initiative (GRI) Standards.

2) **Goal development:** We developed our Goals through a benchmarking exercise using leading companies within the Specialty Chemicals, Oil and Gas and Automotive industries, as well as our competitors. The socio-environmental impact was assessed versus the potential opportunity to differentiate.

3) **Executive support:** To ensure buy-in from the organisation we obtained executive level approval of our goals by demonstrating why the goals are good for our business. Following executive approval, the next challenge was to set ambitious targets to achieve the goals.

Setting our targets

1) **Thorough research:** We carried out extensive research of current sustainability trends, risks and opportunities and a benchmark was performed against those targets set by the leading specialty chemical companies. This information was used to propose a target and multiyear action plan for 2025 for each goal.

2) **Collaboration:** In a significant collaboration exercise, the proposed targets and action plans were presented to the accountable functions (e.g. HR, M&T, Supply, Manufacturing). Resources, timeline and roadmaps were agreed.

3) **Approval:** Following Executive approval the targets were launched globally with appropriate change management plans. This process helped to link employees' efforts to the targets, drive cultural change and improve sustainability performance across the business and value chain.

Both our goals and associated targets have been developed in line with our corporate purpose and, potential for Infineum to contribute to the UN Sustainable Development Goals (SDG's). We identified the key SDG's we impact and set our corporate goals and targets to support our SDG commitments. It is important to review goals on a regular basis and we will set new targets by 2025.

Infineum case study – *continued*

Focus	Goals	2025 targets	UN SDG
Health and Safety	**Zero harm to our people and the environment** 'Nobody gets hurt' is Infineum's highest priority. Personal safety, health, process safety and environmental protection are already embedded into our ways of working. We focus on incident prevention and leading indicators to protect people and the environment. With the 2025 target of 'zero harm: we are aiming for no personal, no process and no environmental incidents.	TRIR + PSE + NER = 0	
Sustainable Products	**Integrate sustainable design solutions into our product development process** As a technology company with a purpose to create a sustainable future through innovative chemistry, the products and components we develop must be created with sustainability in mind.	**100%** of product developments are evaluated with sustainability criteria	
Sustainable Supply Chains	**Collaborate with our suppliers to accelerate environmental and social improvements** Across the value chain. Building a responsible supply chain is vital to sustaining a resilient and successful business. We will increase supply chain transparency and provide assurance of sustainability compliance with relevant suppliers, using the independent EcoVadis rating as a collaborative platform.	**> 80%** of relevant spend to be covered by sustainability assessments	
Sustainable Operations	**Reduce our impact on the climate and resources in our operations** By increasing energy efficiency, using renewable energy and optimising the utilisation of raw materials, we are lowering GHG emissions across our own global operations. We are evolving our approach to emissions reduction in line with climate science.	**↓ 20%** in carbon emissions per ton of product compared to 2018	
Colleague Engagement	**Be an excellent employer** Our highest priority is to work safely and to protect colleagues' health and wellbeing, whilst also recognising that their creativity is critical to the success of Infineum. We strive to sustain and enhance a supportive working environment, allowing our colleagues to feel confident, develop within their roles and deliver at their best, whilst building an equal and inclusive culture.	**> 75%** colleague engagement score achieved	
Community Engagement	**Deliver a positive Impact In communities where we operate** Infineum is committed to delivering a positive impact in the communities where we operate, and encourages colleague volunteering in line with our ambition. To support this, we are introducing a Global Volunteering Standard that provides up to an additional day's annual leave for colleagues to participate in voluntary STEM** or local community support activities.	**> 25%** of colleagues volunteering via global STEM programme and local initiatives	

TRIR = Total Recordable Incident Rate PSE = Process Safety Event (as per API RP 754) NER = Notifiable Environmental Release **STEM – Science, Technology, Engineering and Maths
'Zero harm to the environment' goal refers to notifiable spills and releases

Thomas Swan case study

What is Ecovadis?

Ecovadis provides supplier sustainability ratings. This allows companies to assess the Environmental, Social and Governance (ESG) performance of organisations by operating an evidence-based online platform. Ecovadis covers a range of Corporate Social Responsibility (CSR) issues, grouped into four themes: 'Environment,' 'Labour & Human Rights,' 'Ethics,' and 'Sustainable Procurement.'

Why do you want to join a scheme such as Ecovadis?

Thomas Swan was looking for external verification of our sustainability efforts and joined EcoVadis in 2013 following a request from a customer. Before joining, Thomas Swan assessed the benefits of joining Ecovadis. We found that being a part of Ecovadis was consistent with Thomas Swan's long term strategic business goals. Ecovadis covers the following UN SDG's:

- Goal 3: good health and well-being
- Goal 4: quality education
- Goal 5: gender equality
- Goal 7: affordable and clean energy
- Goal 8: decent work and economic growth
- Goal 9: industry, innovation and infrastructure
- Goal 10: reduced inequality
- Goal 11: sustainable cities and communities
- Goal 12: responsible consumption and production
- Goal 13: climate action
- Goal 17: partnerships for the goals

What resources do you have to commit when you join Ecovadis?

When Thomas Swan joined Ecovadis, the information supplied was taken from our existing management systems using existing resources. It is advisable not to invest additional resources into new systems at the start. As we progressed through each annual audit, it was apparent that a cross-functional team approach was required to address the improvement opportunities highlighted.

Which management systems do you require?

We operate in highly regulated industries and markets and as such we have efficient management systems in place to allow our business to function. We have found that being compliant with standards such as ISO 14000, ISO 45000 and Responsible Care is beneficial.

What information is required by EcoVadis?

EcoVadis requires evidence of your use of existing systems and procedures in the four areas of 'Environment,' 'Labour & Human Rights,' 'Ethics,' and 'Sustainable Procurement.' Each time you submit a new Self-Assessment Questionnaire, EcoVadis will provide you with a summary of your strengths and weaknesses. They also provide suggestions as to how you can improve, which will help you to improve your performance year by year.

Benefits

As well as satisfying customer requirements, a good Ecovadis score shows how well your company is performing compared to other similar companies. A good score can also be used to provide positive publicity via press-releases etc.

Where are we now?

Thomas Swan have obtained a Platinum sustainability rating from Ecovadis. After achieving gold status for three years in a row, the independent certification was received in December 2020 with an overall score of 73%. This improved rating places the us within the top 1% of all companies assessed in our industry sector, an impressive achievement for an SME.

These improved scores reflect Thomas Swan's ambition to continually improve the operation of the business in a sustainable, ethical and commercially viable way.

Synthomer case study

Synthomer Project Sustainability Impact Scorecard

The Synthomer Project Sustainability Impact Scorecard (PSIS) aims to assess the sustainability benefit/ impact of new development projects from the early stages down to product launch. It is a user-friendly tool that is used by the project leader in the three phases of the project – ideation, development, and launch.

The score obtained is used together with traditional indicators to decide on the viability and priority of a given project.

The PSIS is the cornerstone for measuring progress against the 2030 goal and our short-term objectives.

2030 Goal

AT LEAST 60% OF NEW PRODUCTS WITH ENHANCED SUSTAINABILITY BENEFITS

At least 60% of our new product launches will have enhanced sustainability benefits as measured by our Project Sustainability Impact Scorcard.

Short-term target – 2022

› Minimum 50% of new product launches with positive sustainability impact

Principles

PSIS is based on the benefit or impact assessment of the main components in the development of a product, namely:

- input raw materials
- manufacturing & process
- product
- customer & application benefits

The individual scores are them averaged to obtain a final score that ranges from negative to high benefit (over 1.5).

How it works

At each phase of the project, the project leader assesses the various parameters of the PSIS, in a range of high impact (-5) to high benefit (+5). Neutral contribution scores zero. For scores different from zero, the project lead is required to add a comment explaining the impact or benefit.

The degree of confidence of these assessments is also noted in a scale low, medium, and high. As the project evolves, it is expected that the confidence level of the evaluations will also improve.

The outcome is both a score and a graph indicating which are the main contributors to the final score.

A clean scorecard and example are shown below. Download the scorecard here.

Project Sustainability Impact Scorecard

Project		Contributors	
Comments		Project Phase	

Grouping	Category	Description and Score Guide	-5	-2	0	2	5	Score	Assessment Confidence	Comment for Non-Zero Scores and Customer & Application Benefits
Input Raw Materials	Elimination of Ingredients which pose a product safety concern.	Eliminates chemicals listed as a high hazard or regulatory concern	Contains new raw materials of regulatory concern	Continues the existing use of raw materials of regulatory concern	Current offering does not use raw materials of concern and will not use them	Reduces the use of raw materials of regulatory concern.	Eliminates the use of raw materials of regulatory concern.			
	Use of Lower Carbon Impact Raw materials, e.g., renewable based, recycled, mass-balance	% on a dry basis of raw materials coming froma low Carbon impact sources	Replaces the existing low C raw materials to lower the amount used by over 10% of total composition	Replaces the existing low C raw materials to lower the amount used by 1 to 10% of total composition	No significant change	Increases the use low C raw materials from 5% up to 20% of total composition	Increases the use of low C raw materials by more than 20% of total composition			
Manufacture and Process	Energy Reduction	Measurable energy reduction through, e.g., lower cycle time, lower reaction temperature etc.	Increases energy consumption by more than 20%	Increases energy consumption by 5 to 20%	No significant change	Decreases energy consumption by 5- 20%	Decreases energy consumption more than 20%			
	Water Reduction	Measurable water consumption reduction, for example, reduced cleaning, steam stripping avoidance etc.	Increases water consumption by more than 20%	Increases water consumption by 5 to 20%	No significant change	Decreases water consumption by 5- 20%	Decreases water consumption by more than 20%			
	Waste Reduction	Refers to an overall waste generation, e.g. fouling or residue in the reactor	Increases waste generation by more than 20%	Increases waste generation by 5 to 20%	No significant change	Decreases waste generation by5- 20%	Decreases waste generation by more than 20%			
Product	Product Hazard Classification	Product Safety driven to reduce hazard classification of our product	Hazard classification increased	No change but product continues with a high level of hazard classification	Current offering is low hazard and will not increase	Reduce the level of hazard classification	Eliminate all hazard classification			
	End of Life (EoL) Management	End of life management to reduce environmental impact, e.g., longer product life cycle, enhanced recyclability, biodegradability etc.	A significant negative environmental impact to EoL management	Negative environmental impact to EoL management	No change	Environmental benefit to EoL management	Environmental high benefit to EoL management			
Customer and Application Benefits	Benefit in Product Safety and Stewardship Down the Supply Chain	Ability of downstream users eliminate ingredients of concern inther product or to reduce hazard classification	Hazard classification increased in customer formulation or product	No change in customer formulation or product, but continues with a high level of hazard classification	Current customer formulation or product is low hazard and will not increase	Reduce the level of hazard classification for customer formulation or product	Eliminate all hazard classification for customer formulation or product			
	Sustainability Benefit Down the Supply Chain	Enables customers to improve energy use, carbon emissions, water use, waste reduction, circularity or meet ESG goals	Provides a significant internal or market detriment	Provides a measurable internal or market detriment	No Change	Provides a measurable internal or market benefit	Provides a significant internal or market benefit			

Assessment is made with reference to the material that it is replacing where one is know (internal or external substitution)

Sustainability Impact						Average Score	Fill in ALL Cells
	Negative	Neutral	Low	Medium	High		
	Negative Score, or Two-2 categories, or One-5 category	Score 0	Score over 0 to 0.75	Score 0.75 to 1.5	Score Over 1.5		

Footnote: The PSIS was developed internally by the Global Technology and Innovation function. The scoring methodology is based on the "RWW – Real, Winnable, Worth It" tool, initially introduced to us by Hitachi Consulting.

GSK case study

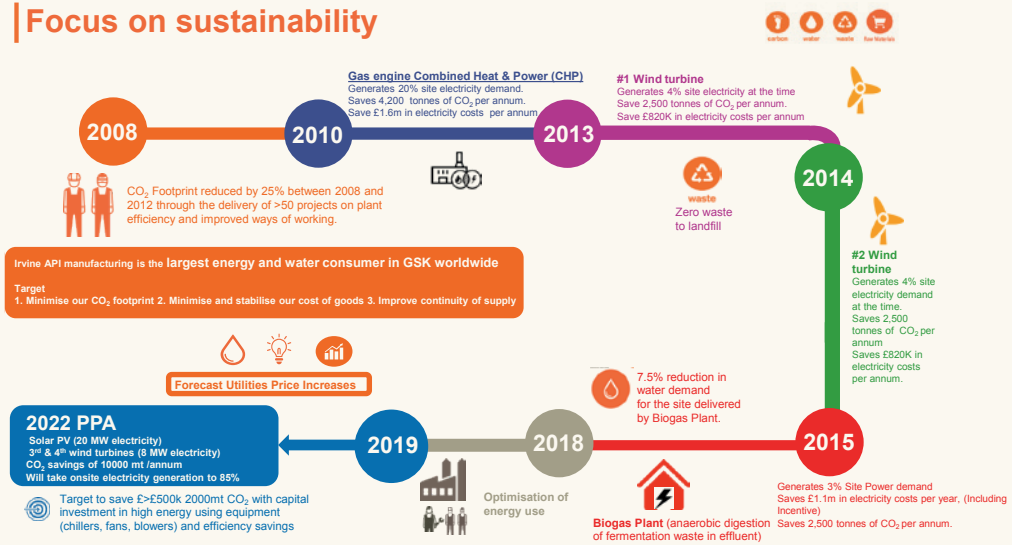
On site renewables at GSK

In November 2020, we announced ambitious new environmental sustainability goals in both climate and nature, aiming to have a:

Net zero impact on climate by 2030

Net positive impact on nature by 2030

GSK have long been committed to reducing their environmental impact and were one of the first pharmaceutical companies to set ambitious environment targets in 2010. Since then, across their operations, they have reduced carbon emissions by 34%, waste to landfill by 78% and total water use by 31% (2019 figures).



Further reading on sustainability and on site renewables at GSK.

Venator Materials case study

Biodiversity at Venator Materials – Greatham site

The Venator Materials' Greatham site is located on the north bank of the Tees Estuary and manufactures titanium dioxide which is incorporated as an opacifier into paints, plastics, and many other everyday items. However, the chemical site only makes up a quarter of the land owned by Venator, with the remainder being a mixture of salt marsh, open water ponds, reed beds and grassland; the marshland is referred to as Greenabella Marsh. There is a protective sea wall (far right in the photo) and beyond this is Seal Sands, which are intertidal mud flats and a favourite haul out point for the local seal population.

Since the building of the site in the late 1960s, employees with an interest in nature have often visited the marsh area and particularly the sea wall. In 1990, the company (part of ICI at the time) became one of the founder members of the Teesside Industry Nature Conservation Association (INCA) and this proved an important step in actively surveying and enhancing the area.

Greatham chemical plant surrounded by Greenabella Marsh permanent and overwintering birds, foxes, (to the right of the plant), open water ponds and grassland.

People on site were already aware of some of the local residents such as a wide range of roe deer and brown hares. In addition, a permissive path had been created skirtingnorth of the chemical plant through landfill tax credits. Membership of INCA provided the expertise and local contacts to other specialist ecology groups to carry out surveys of the wildlife and develop a fuller picture of its ecology. Over the years, this has extended the species list to include water voles and the occasional otter.

This led to parts of Greenabella Marsh being designated as a Special Protection Area (SPA), an international designation which was based on the numbers of over-wintering birds such as knot and redshank. It was also designated as a Site of Special Scientific Interest (SSSI) because of the type of habitat (saltwater marsh) and certain key bird species.

Greatham chemical plant viewed from Greenabella Marsh.

The real value of site surveys to Venator has been to allow the creation of the site's iBAP, its industrial Biodiversity Action Plan. The initial site iBAP was created in collaboration with INCA in 2003 and we believe was one of the first iBAPs for a chemical site in the UK. This focused our efforts to conserve or develop habitat features, encourage target species and maintain existing paths.

Examples of various improvements have been reed management on the ponds, selective grass cutting to encourage the spread of the orchid population, installing barn owl boxes, creation of an area with a blast furnace slag substrate followed by seeding of local plants to encourage butterflies (particularly dingy skipper) and sponsored bird watches by the Teesmouth Bird Club.

How did we develop biodiversity on the site?

There have been a range of different factors which have helped us protect and develop the Greenabella Marsh. The key features have been:

a) enthusiastic site personnel with support and encouragement from the site's Leadership Team

b) the development of good working relationships with INCA and other ecologically focused NGOs

- We found that these groups are often keen to carry out surveys in their areas of speciality, particularly as the sites may not have been surveyed before e.g., birds, seals, butterflies
- They have been able to supply volunteers to support any development work such as the creation of paths or specific habitats

Creating an area to encourage dingy skipper butterflies by growing local plants.

Venator Materials case study – continued

  - They will have knowledge of potential external funding for the development of specific types of habitat

c) A annual budget for small-scale work, such as path maintenance, pond and other habitat development or selective grass cutting to encourage wildflowers, and the use of outside funding which may be available for certain types of developments

d) Regular communication of work, surveys and unusual wildlife sightings to both on-site staff and our NGO partners.

What are the benefits for Venator?

As well as protecting the site's flora and fauna, we've found the benefits of actively managing the area have included:

a) the development of excellent working relationships with members of the local eco-community and Natural England who are the custodian of the SSSI

b) a site where our staff can walk at lunchtime allowing them to escape work and relax

Customers visiting marsh during Sustainability Audit.

c) a positive image with the local community and good publicity for the company

d) a source of readily available environmental information when applying for planning permission or environment permits/licences

e) customers increasingly ask about our wider environmental impact.

Whilst Greatham is lucky to have Greenabella Marsh as part of its site, when talking to INCA it is clear that many industrial sites have unused areas which are rarely visited and have been allowed to 'go to seed'. These can often develop naturally into very interesting ecological areas with some unexpected flora and fauna.

Summary

Although the protection and development of Greenabella Marsh has taken a significant number of man-hours and some financial support, both the local ecology and Greatham site have benefitted from the work. The site has built some excellent relationships with local ecology groups which we might otherwise have never encountered. It has also demonstrated to the local community a positive aspect of the chemical industry and created something which the site is proud of.

Decarbonisation roadmaps case study – CRODA

CRODA

By 2030 we will be Climate Positive

We will continue to reduce our carbon footprint and increase our use of bio-based raw materials, whilst the benefits in use of our ingredients will enable more carbon to be saved than we emit through our operations and supply chain

Reducing Emissions

By 2030, we will have achieved our SBTs, in line with limiting global warming to 1.5ºC

By 2050, we will be a net zero organisation

7.2 9.4 13.2

Sustainable Innovation

By 2030, over 75% of our organic raw materials by weight will be bio-based, absorbing carbon from the atmosphere as they grow

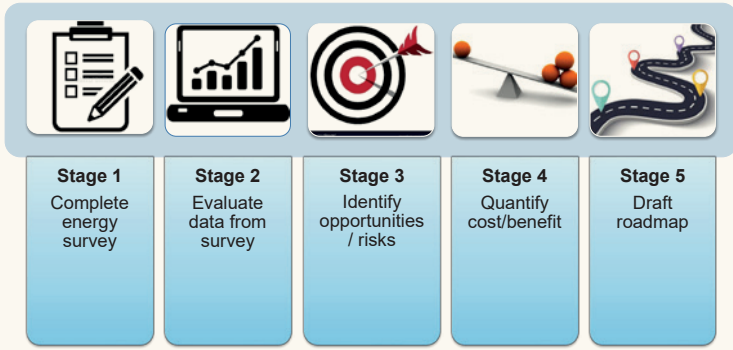
7.2 & 7.3 13.2

Carbon Cover

By 2030, use of our products will avoid four times the carbon emissions associated with our business, our 4:1 carbon cover

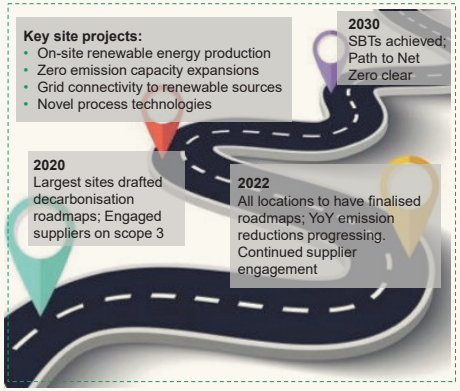
12.2

The 5 stage process



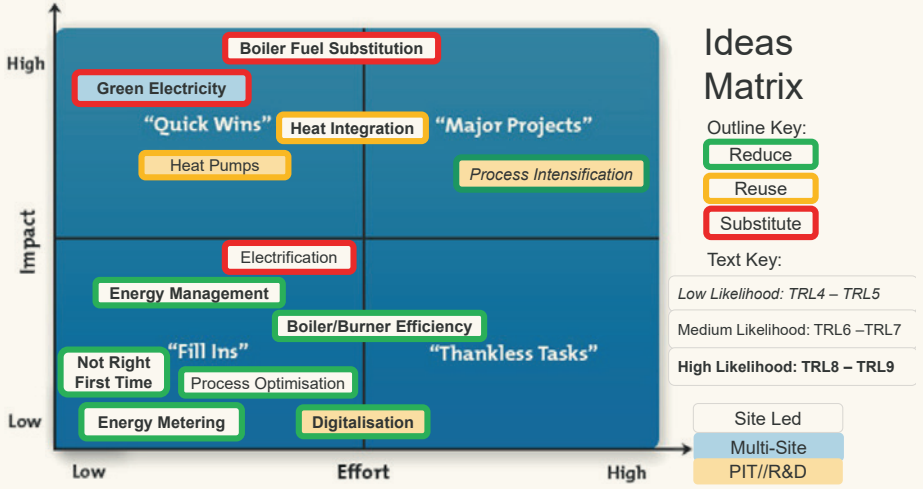
How we will achieve our targets – roadmap to success

Reducing Croda's carbon footprint



Using tools to support decision making:

- **Internal carbon price of £50/tonne applied to all CAPEX investments (including scope 3)**
- **Sustainability Impact Assessments for projects**
- **Product Carbon Footprints – building sector carbon budgets**
- **Life Cycle Assessment data – mapping out supply chains**



Further reading on 'Decarbonisation roadmaps' at CRODA.

CIA

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