Energy and Sustainability Topics – Site Sustainability Review

TANGRAM TECHNOLOGY | **Consulting Engineers**

Energy and Sustainability Topics – Site Sustainability Review

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Part 1: Introduction

1.   The Site Sustainability Review

The Site Sustainability Review (SSR) is a diagnostic self-assessment tool developed to help plastics processing sites to:

- Assess their current sustainability management status.

- Provide a road-map for future work and improvements in Sustainability Management at a site.

It is not strictly suitable for use at a corporate level because of the focus on site performance but can provide some useful guidance in developing a Corporate Sustainability Strategy.

The SSR generates a series of radar charts to allow a site to assess where it is in sustainability management terms. The SSR is not designed to be a criticism of site activities but to provide a simple method of assessing status and progress.

2.   Completing the SSR

The SSR is based on the contents of a book, 'Sustainability Management in Plastics Processing' by Robin Kent, published by the British Plastics Federation (ISBN 978-1-3999-1160-3).

This provides a structured approach to sustainability management for plastics processors and covers all the main topics of relevance through the product life-cycle. It is a practical workbook designed for use by plastics processors around the world and not as an academic textbook.

The SSR is based on the longer treatment of sustainability in the book and uses the structure of the book to assess sustainability. This means that some of terms and words used in the SSR may not be totally familiar unless the user has read the book. If you are not familiar with a specific term then reference to the book should make it clearer.

This document allows the user to print the document and complete the SSR in hard copy and transfer the results to the radar chart for each topic.

3.   The self-assessment sheets

Each self-assessment sheet covers a single issue.

Simply select the most appropriate description of the current site status and fill in the 0 to 4 grade in the score area. The results can then be transferred to the radar chart for assessment.

It is recognised that in many cases the site will not meet the exact description given – simply select the most appropriate score for the site even if it varies slightly from the description given.

In general, unless the site meets all of the statements in the box then the next lower box should be selected.

Continue this process until all the relevant self-assessment sheets are completed.

Note: It is recommended that the SSR is completed by a group through discussion.

4.   What to do if the topic is not relevant to the site

The SSR covers a broad range of sustainability topics and some of topics in the Technical Issues section may not be relevant to all sites. If a topic is not relevant to your site, then feel free not to complete the particular topic. All topics in the 'Basics' section should be completed.

5.   Example of using the SSR

The SSR is designed to provide not only an assessment of the current status of the site but also to signpost possible future actions to improve the status.

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For example, in the 'Measuring' section for the 'Energy and climate' Sheet for the options are:

Level	Operational
4	Carbon emissions calculated for all scopes. Updated yearly. Excellent measurements & methods used.
3	Carbon emissions calculated for all scopes. Updated yearly. Good measurements & methods used.
2	Carbon emissions calculated for scopes 1 & 2 only. Updated yearly. Good measurements & methods used.
1	Carbon emissions calculated more than 1 year ago for scopes 1 & 2 only. No updating carried out.
0	Carbon emissions not calculated.
Score	

If the most appropriate current description is: 'Carbon emissions not calculated.' then the score is 0 but the site can see the next set of recommended actions to improve the score.

This highlights areas for potential improvement and the SSR can serve as a road-map for future actions.

6.   Feedback

It is hoped that the SSR will provide valuable information to companies on both their current status and actions for the future. If you have suggestions for improvements then please send these to the address on the front cover. We hope to further improve the SSR to support sustainability management in the plastics processing industry.

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Part 2: Basics

1.   Energy and climate

Understanding the current situation provides the basis for an improvement strategy and many of the basic actions necessary for successful sustainability implementation.

Completing the chart

Each chart has several columns which cover various aspects of the main topic.

To complete a column read the descriptions in the column cells and select the cell that is closest to the current situation at your site.

It is unlikely that every part of the description in the cell will fully describe your specific situation but choose the cell that has the most appropriate description. This will give a score ranging from 0 to 4, mark this at the base of the column.

After all the columns have been scored, transfer the scores to the radar chart for the relevant columns/axes. This gives a rapid visual assessment of the current situation for the specific topic.

Scoring

Energy & climate radar chart with axes: Responsibility, Measuring, Targets, Reduction programme, Reporting (internal), Reporting (external); scale 0 to 4.
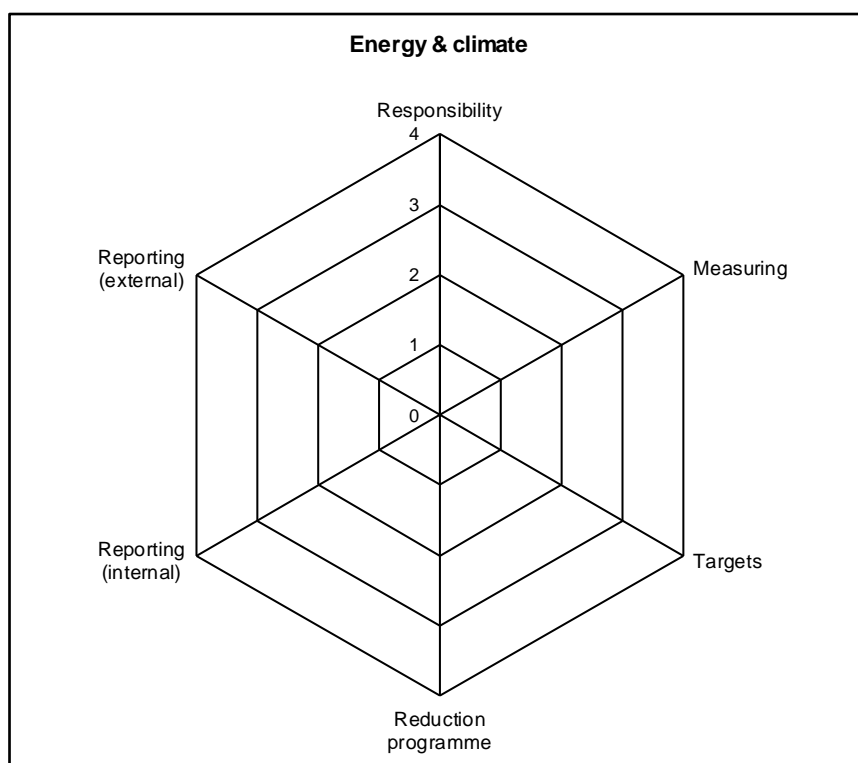
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Energy & climate					2.1
Level / **Control**	**Measure**	**Targets**	**Reduction plan**	**Report (internal)**	**Report (external)**
4 — Main board director responsible for energy & climate issues. Regular reporting to Main Board.	Carbon emissions calculated for all scopes. Updated yearly. Excellent measurements & methods used.	Carbon reduction targets set & agreed with Main Board. Progress towards targets regularly monitored.	Formal carbon reduction programme produced & agreed by Main Board.	Monthly reporting of key indicators, e.g., energy use. Comparison with targets based on activity or condition drivers.	Regular & validated external (publicly available) reporting.
3 — Main board director responsible for energy & climate issues. No regular reporting to Main Board.	Carbon emissions calculated for all scopes. Updated yearly. Good measurements & methods used.	Carbon reduction targets set & agreed with Main Board. Progress towards targets monitored irregularly.	Formal carbon reduction programme produced but not agreed by Main Board.	Quarterly reporting of key indicators, e.g., energy use. Comparison with poorly defined targets.	Regular external (publicly available) reporting. Not fully validated.
2 — Mid-level manager responsible for energy & climate issues. No regular reporting to Main Board.	Carbon emissions calculated for scopes 1 & 2 only. Updated yearly. Good measurements & methods used.	Carbon reduction targets set but not fully agreed or supported by Main Board. No progress monitoring.	Formal carbon reduction programme produced at low level with no support or agreement from Main Board.	Annual reporting of some key indicators but mainly for accounting purposes. Some comparison with budget.	Regular external reporting only via Annual Report, i.e. not fully public. Not fully validated.
1 — Low-level manager responsible for energy & climate issues. No regular reporting to Main Board.	Carbon emissions calculated more than 1 year ago for scopes 1 & 2 only. No updating carried out.	Some informal carbon reduction targets set by lower management. Not agreed or supported by Main Board. No progress monitoring.	Informal carbon reduction programme available but it has no support or agreement from Main Board.	Annual reporting of some key indicators but only for accounting purposes. No comparison with targets.	External report only available on request, i.e., not public.
0 — No designated person responsible for energy & climate issues.	Carbon emissions not calculated.	No carbon reduction targets set.	No carbon reduction programme.	No internal reporting of any key indicator of carbon emissions.	No external reporting.
Score					

2.   Material effectiveness

Using all materials effectively is a key element of sustainability. This means reducing waste outputs (of any type) to ensure that all materials, not simply plastics, entering the site are used effectively and that all outputs from the site (apart from saleable product) are minimised and, where possible, recycled. This not only reduces the site's environmental impact but also improves the financial performance of the site. Less waste and the correct treatment of any waste generated means reduced costs for the materials and reduced disposal costs.

Sustainability is not simply about removing or minimising any environmental impacts, it is also about creating and growing a business that can grow and prosper to provide employment and clean outputs in the future.

Material effectiveness is a fundamental in achieving this.

Scoring
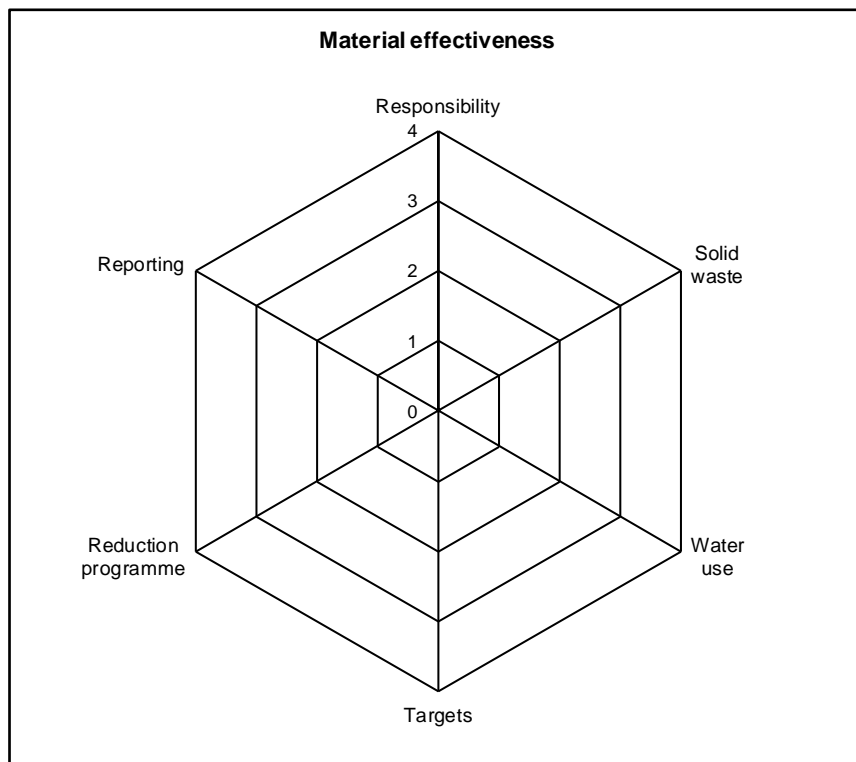
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Material effectiveness						2.2
Level	**Control**	**Solid waste**	**Water use**	**Targets**	**Reduction programme**	**Reporting**
4	Main board director responsible for solid waste & water use. Regular reporting to Main Board.	Solid waste reliably measured for all areas & materials. Excellent understanding of the sources & destinations of all solid waste.	Water use reliably measured for all areas. Excellent understanding of the source & destination of water (including recycling).	Solid waste & water use reduction targets set & agreed with Main Board. Progress towards targets regularly monitored.	Formal solid waste & water use reduction programmes produced & agreed by the Main Board.	Monthly reporting of key indicators. Comparison with targets from activity or condition drivers. External reporting.
3	Main board director responsible for solid waste & water use. No regular reporting to Main Board.	Solid waste measured for most areas & materials. Good understanding of the sources & destinations of all solid waste.	Water use measured for most areas. Good understanding of the source & destination of water (including recycling).	Solid waste & water use reduction targets set & agreed with Main Board. Progress towards targets monitored irregularly.	Formal solid waste & water use reduction programmes produced but not agreed by the Main Board.	Quarterly reporting of key indicators. Comparison with poorly defined targets. External reporting.
2	Mid-level manager responsible for solid waste & water use. No regular reporting to Main Board.	Solid waste measured for some areas & materials. Average understanding of the sources & destinations of all solid waste.	Water use measured for some areas. Good understanding of the source & destination of water (including recycling).	Solid waste & water use reduction targets set but not fully agreed or supported by Main Board. No monitoring.	Formal solid waste & water use reduction programmes produced at low level with no support or agreement from the Main Board.	Annual reporting of key indicators, but mainly for accounting purposes. Some comparison with budget targets.
1	Low-level manager responsible for solid waste & water use. No regular reporting to Main Board.	Solid waste measured for few areas & materials. Poor understanding of the sources & destinations of solid waste generated.	Water use measured for very few areas. Poor understanding of the source & destination of water (including recycling).	Some informal solid waste & water use reduction targets set at low level. Not agreed or supported by Main Board. No monitoring.	Informal solid waste & water use reduction programmes available but they have no support or agreement from the Main Board.	Annual reporting of key indicators but mainly for accounting purposes. No comparison with targets.
0	No designated person responsible for solid waste & water use.	Solid waste not measured for any areas or materials. No understanding of the sources & destinations of any solid waste.	Water use not measured for any area, i.e. global use only. No understanding of the source & destination of water (including recycling).	No solid waste & water use reduction targets set.	No solid waste & water use reduction programmes.	No internal reporting of any key indicator of solid waste & water use.
Score						

3.   Natural resources

Where does it come from and go to?

Every processing operation has material inputs that are transformed in the process. Responsible and validated sourcing of these inputs is an important factor in sustainable plastics processing. Sites need to be aware of where materials are coming from, that the supplier complies with good practice in all relevant areas and that third-party certification is available where it is relevant. Sites also need to be aware of any restrictions on materials use or legislatory requirements before materials can be used.

The plastics processing industry is fortunate in using a material that, in many cases, can be effectively and economically re-used internally. It is therefore important, for both sustainability and for financial performance that as much of the input material is converted into good product as possible. The re-use and retention, i.e., preventing material escape, of valuable raw materials is key to sustainable processing.

Scoring

Natural resources radar chart with axes: Country of origin, Sustainable purchasing, Third-party certification, Material use, Re-use (polymer), Material escape (polymer); scale 0 to 4.
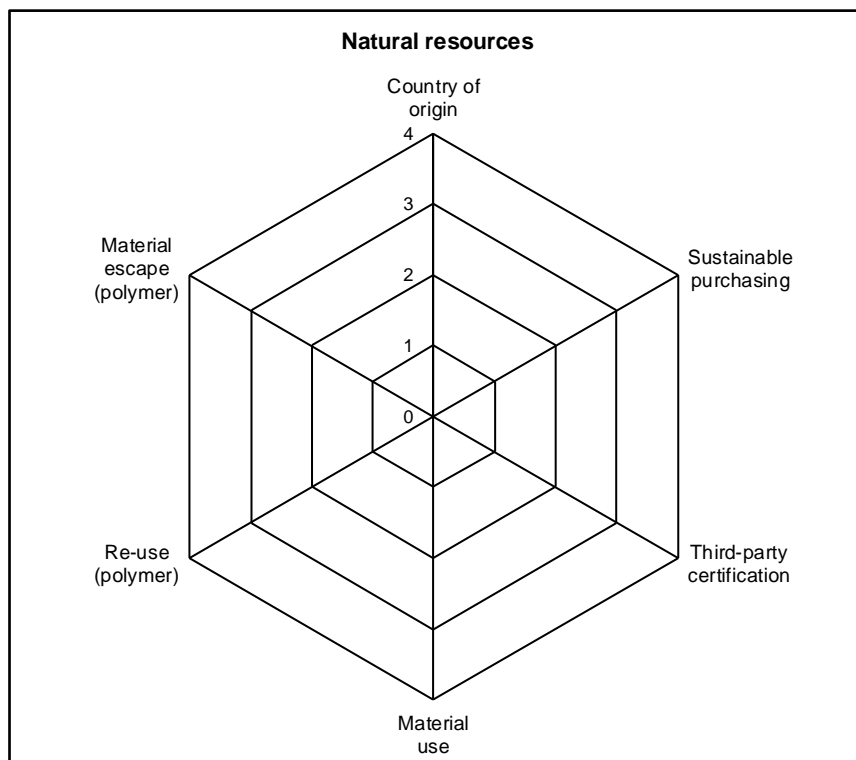
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	Natural resources					2.3
Level	**Country of origin**	**Sustainable purchasing**	**Third-party certification**	**Material use**	**Re-use (plastics)**	**Material escape (plastics)**
4	Country of origin known for 100% of the materials & products used in production.	Publicly available sustainable procurement guidelines for all suppliers covering environmental, employment & product safety.	Third party environmental certifications available (or declared as not needed) for all products.	All materials used comply with the RoHS & REACH requirements with full & easily accessible documentation available to prove this.	All plastics scrap re-used internally. Good handling processes to preserve value & cleanliness of scrap.	Excellent precautions to prevent escape from all processes. Containment is excellent & very low chance of material escape.
3	Country of origin known for most (>50%) of the materials & products used in production.	Internal sustainable procurement guidelines available to most suppliers covering environmental, employment & product safety.	Third party environmental certifications available (or declared as not needed) for most products.	Good internal knowledge of RoHS & REACH requirements but limited documentation available to prove compliance.	Most (>50%) plastics scrap re-used internally. Reasonable handling processes to preserve value & cleanliness of scrap.	Good precautions to prevent escape from most processes. Containment not complete & some areas show escape potential.
2	Country of origin known for some (<50%) of the materials & products used in production.	Internal sustainable procurement guidelines available for some suppliers covering environmental, employment & product safety.	Third party environmental certifications available (or declared as not needed) for some products.	Poor internal knowledge of RoHS & REACH requirements & poor documentation available to prove compliance.	Little (<50%) plastics scrap re-used internally. Poor handling processes to preserve value & cleanliness of scrap.	Average precautions to prevent escape from a few processes. Containment average & some areas show escape potential.
1	Country of origin known for very few (<10%) of the materials & products used in production.	Informal sustainable procurement guidelines available but these do not cover all issues.	Third party environmental certifications available (or declared as not needed) for very few products.	Little internal knowledge of RoHS & REACH requirements & very little documentation available to prove compliance.	No internal treatment of plastics scrap. All plastics waste sold or sent for recycling.	Poor precautions to prevent escape from any process. Containment poor & many areas show escape potential.
0	Country of origin not known for any of the materials & products used in production.	No sustainable procurement guidelines available.	No third party environmental certifications available for any product produced.	No internal knowledge of RoHS & REACH requirements & no documentation available to prove compliance.	No internal treatment of plastics scrap. Plastics waste treated as solid waste & disposed of via solid waste channels.	No precautions taken to prevent escape. All areas show escape potential.
Score						

4.   People and community

We have to contribute too

Sustainability is not simply about materials and products. It is also about investing in and building a community. Our workers need good jobs that are safe and conform to, or exceed, all the relevant social requirements. However, it is not enough to concentrate solely on our own staff, the industry needs to ensure that all our suppliers also meet the relevant social requirements and have plans to continuously improve compliance.

Our community is not simply our own staff. Every site is part of many diverse communities, these can be local and based on the site, countrywide and based on the industry or world-wide and based on the speciality. Contributing to these communities increases and reinforces the sustainability of the business, it provides a driver for improvement and increases the reputational capital of the business. Community development can be multi-faceted but it is never wasted.

Scoring
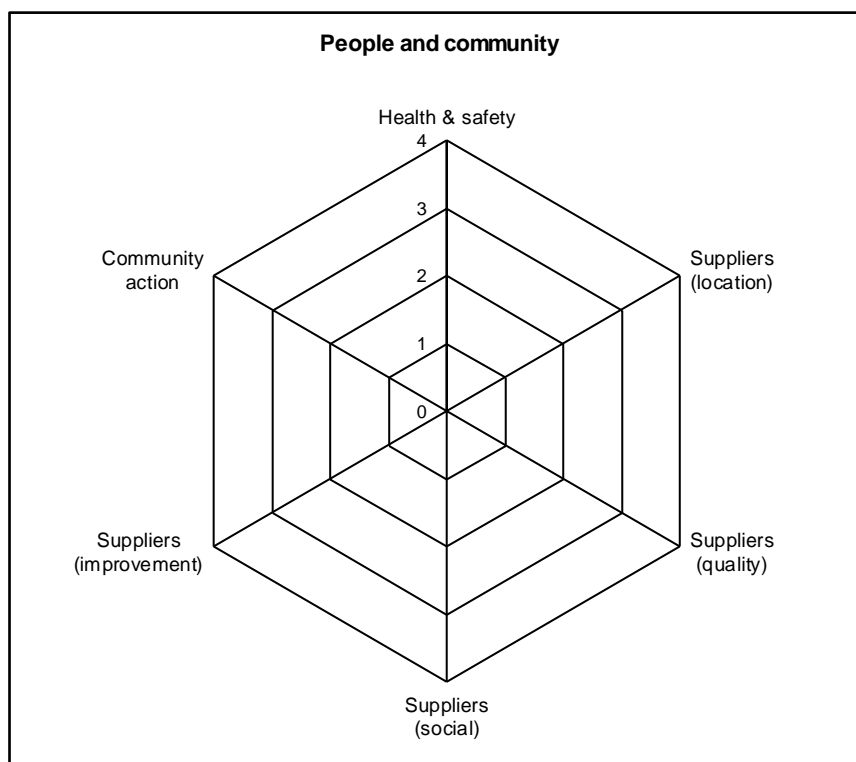
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	People & community					2.4
Level	Health & safety	Suppliers (location)	Suppliers (quality)	Suppliers (social)	Suppliers (improving)	Community action
4	Risk assessments carried out. Assessments follow well defined process & are well documented.	Location of production sites known for 100% of the products used in production.	Quality, capability & capacity formally assessed for all suppliers before supplier selection & trading relationship established.	Social compliance formally assessed for all suppliers before supplier selection & trading relationship established.	Supplier social compliance correction & improvement programme produced & agreed.	Well defined & funded investment in community development activity in relevant locations.
3	Risk assessments carried out. Assessments follow poorly defined or inappropriate process but are well documented.	Location of production sites known for most of the products used in production.	Quality, capability & capacity formally assessed for most suppliers before supplier selection & trading relationship established.	Social compliance formally assessed for most suppliers before supplier selection & trading relationship established.	Supplier social compliance correction & improvement programme produced but not agreed.	Good investment in community development activity.
2	Risk assessments carried out. Assessments follow poorly defined or inappropriate process & are poorly documented.	Location of production sites known for some of the products used in production.	Quality, capability & capacity assessed for some suppliers before supplier selection & trading relationship established.	Social compliance assessed for some suppliers before supplier selection & trading relationship established.	Low-level supplier social compliance correction & improvement programme with no support or agreement.	Poor investment in community development activity.
1	Risk assessment carried out for some areas but informal & poorly documented.	Location of production sites known for very few of the products used in production.	Quality, capability & capacity assessed for few suppliers before supplier selection & trading relationship established.	Social compliance assessed for few suppliers before supplier selection & trading relationship established.	Informal social compliance correction & improvement programme that has no support or agreement.	Little investment in community development activity.
0	No health & safety risk assessment carried out at any stage. NOTE: This could contravene local legislation.	Location of production sites not known for any of the products used in production.	Quality, capability & capacity not assessed for any supplier before trading relationship established.	No assessment of social compliance before trading relationship established.	No social compliance correction & improvement programme.	No investment in community development activity.
Score						

5. Product life cycle

Understanding the cycle

The new product life cycle (see Section 1.7) needs to be understood to minimise environmental impacts at all stages of a product's life and to improve the sustainability of the industry. It is no longer enough to focus simply on the manufacturing step and to assume that everything that happens afterwards is external.

The product lifecycle is an outstanding opportunity for plastics processors not only to get ahead of the regulatory demands and reduce costs but also to establish an ethical lead in the market.

Changes in legislation and markets will force many of this on processors whether they like it or not, but by becoming pro-active, processors also improve sustainability and achieve cost reductions.

This is the start of things to come.

Scoring
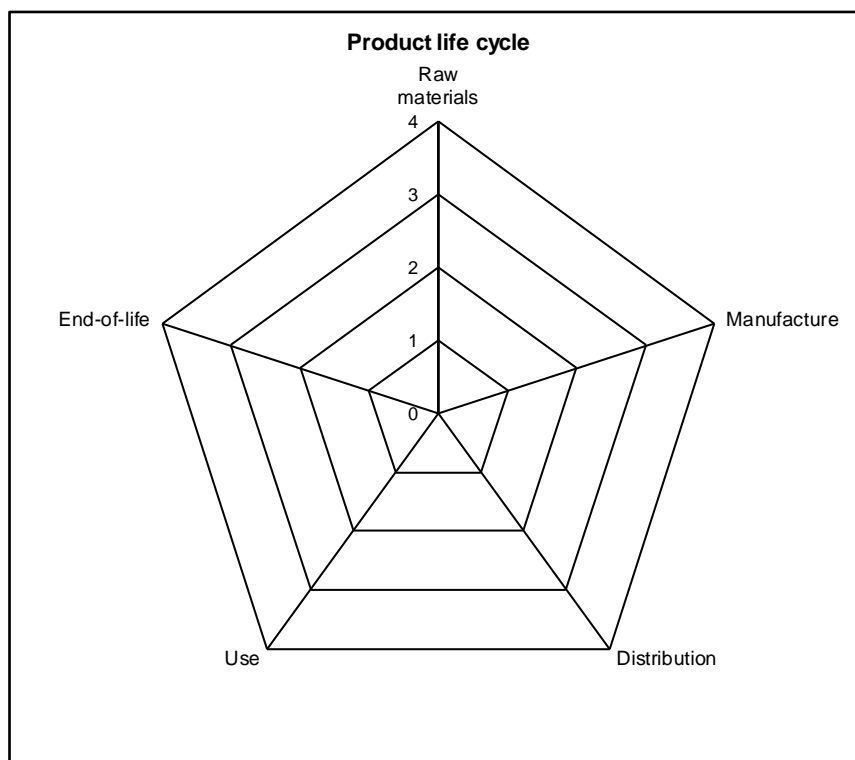
Product life cycle

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	Product life cycle				2.5
Level	**Raw materials**	**Manuf.**	**Distrib.**	**Use**	**End-of-life**
4	Use & cost of raw & recycled materials is an integral part of process & product design. Targets set & achieved.	Resource use & environmental impacts are an integral part of process & product design. All benchmark resource use targets known & achieved.	Distribution considered as an integral part of process & product design. Distribution cost targets are known & targets achieved.	Resource use & environmental impacts in use stage are an integral part of process & product design. All benchmark resource use targets known & achieved.	Disposal options & routes are an integral part of process & product design. Cost of disposal targets are known & achieved with well-defined disposal routes.
3	Use & cost of raw & recycled materials are known & targets achieved.	Resource use & environmental impacts considered in process & product design. Most benchmark resource use targets available & achieved.	Distribution considered in process & product design. Distribution costs available but not always achieved.	Resource use & environmental impacts in use stage considered in process & product design. Most benchmark resource use targets available & achieved.	Disposal options & routes considered in process & product design. Cost of disposal targets & disposal routes considered but not well defined.
2	Use & cost of raw & recycled materials considered in process & product design.	Resource use considered in process & product design. Limited benchmark resource use targets available & achievement is variable.	Distribution costs poorly considered in process & product design. Limited distribution cost targets available & achievement is variable.	Resource use in use stage considered in process & product design. Limited benchmark resource use targets available & achievement is variable.	Disposal options & routes considered in process & product design. Cost of disposal targets & disposal routes not considered.
1	Use & cost of raw materials targets available but not always achieved.	Resource use considered only for cost reduction element of process & product design. No benchmarks for resource use available or considered.	Distribution costs considered only for publicity purposes. No serious benchmarks for distribution costs available or considered.	Resource use in use stage considered only for publicity purposes. No serious benchmarks for resource use available or considered.	Disposal options & routes poorly considered in process & product design. No cost of disposal targets set and disposal routes.
0	Use & cost of raw & recycled materials poorly considered in process & product design.	Resource use in manufacturing is not considered in the process & product design.	Resource use in distribution is not considered as part of the process & product design.	Resource use in use stage is not considered in process & product design.	Disposal options & routes not considered in process & product design. No cost of disposal targets set and disposal routes not considered.
Score					

6. Sustainability management projects

The sustainability management process

Choosing between sustainability management projects will always be difficult. There will always be too many projects competing for too few resources.

Companies need to rapidly assess the potential gains and difficulty of implementing any potential project before rushing into a complex project that has a relatively low potential to improve sustainability.

Project selection is a key to successful sustainability management.

After projects have been selected then an effective project management system is an essential to delivering projects and achieving the potential gains.

Cross-functional teams are an invaluable tool for sustainability management due to the organisation of most companies.

Scoring

Sustainability management projects

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Sustainability management projects					2.6
Level	**Selection**	**Planning**	**Organising**	**Resources**	**Problem solving**
4	All relevant sustainability improvement opportunities identified & prioritised for action.	Formal project definition & project plan necessary for any project. Progress is regularly reported & post-project assessment is carried out.	Excellent sustainability project management system used in all cases. Projects have clearly defined management & sustainability benefits.	Project resources defined & allocated before project start. Projects are rarely delayed due to resource constraints.	Firmly embedded culture of improvement & problem solving through planning, action & review. Root causes identified & resolved.
3	Most available sustainability improvement opportunities identified but not prioritised for action.	Formal project planning carried out for all projects but control, reporting & assessment are variable. Failed projects are sometimes hidden & no lessons learnt.	Good sustainability project management system but use is variable. Good integration across departments but many projects have poor sustainability benefit definition.	Project resources defined but not allocated at project start.	Problem solving is largely reactive with focus on solving root causes. Solutions developed but not always fully implemented.
2	Some sustainability improvement opportunities identified but no real planning process.	Project planning carried out for most projects but control, reporting & assessment are poor or rarely carried out. Failed projects are often hidden & no lessons learnt.	Sustainability project management system available but not used. Some integration of projects across departments & poor sustainability benefit definition.	Project resources poorly defined at project start.	Problem solving is largely reactive; solutions are developed but rarely fully implemented. Focus on dealing with urgent effects & not on solving root causes.
1	Few sustainability improvement opportunities identified via unplanned process.	Cursory & undocumented project planning but no formal project planning or monitoring. Projects can become dormant & remain unfinished.	No sustainability project management system. Some integration of departments for projects that clearly cross departmental boundaries.	Project resources rarely considered at project start.	Problem solving is purely reactive & focused on dealing with urgent effects & not on solving the root cause.
0	Significant sustainability improvement opportunities ignored due to 'urgent' daily pressures.	No effective project planning. Actions are ad hoc & driven by events. Action is seen as more important than planning.	No sustainability project management system. Every project is 'different'. Projects are run by departments with little input from other departments.	Projects often started without adequate resources (due to poor planning) or starved of resources during project. Urgency is rated more highly than strategic importance.	Problems are ignored until they go away.
Score					

Part 3: Management

1.   Management systems

Getting ready for systems

Developing and installing an effective management system is not an easy task and the biggest issue is that this inevitably involves changes in the way people work. These changes can be transformational or disastrous depending on how they are managed.

Most managers believe that they have excellent systems, after all they usually designed them, However, a few minutes of investigation will often show that the systems are old, do not work properly and get in the way of the staff doing the things that we actually want them to do. Before installing any management system, the company needs to examine if it is ready for the changes.

Getting the systems right can quickly improve performance, improve staff satisfaction and improve sustainability. To do this, companies must be ready for change; they must have systems in place to manage the changes and must provide appropriate support structures for staff during the changes.

How much of this are you doing?

Scoring

Management systems
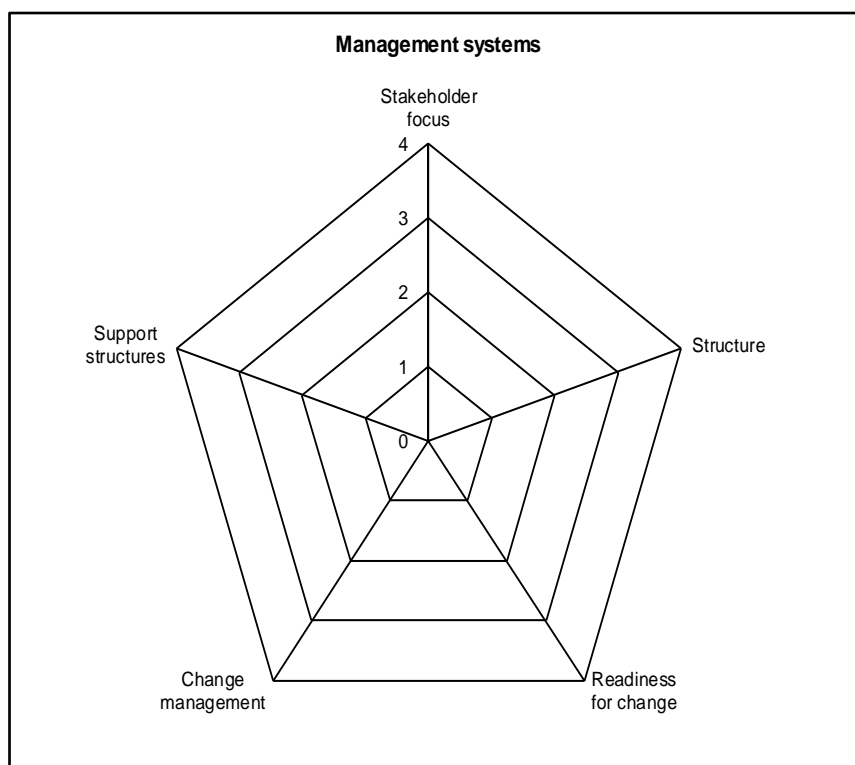
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	Management systems				3.1
Level	**Customer focus**	**Structure**	**Ready for change**	**Managing change**	**Support structures**
4	Internal & external customers are the highest priority. They are seen as the only reason for the existence of the operations. Staff are happy with their ability to serve the customer.	Structure encourages all staff to identify & solve problems. It encourages collaborative work across departments to solve problems & capitalise on opportunities.	High readiness for change at all levels. Company in constant state of change to adapt to changing markets. All staff see change as normal & examine systems for improvements.	Change management has a history of success even for significant changes. Change management is proactive, communicated & managed well.	Staff well supported by management in executing changes to systems. Management actively supports & encourages suggestions for changes to systems & operations.
3	External customers are seen as important but internal customers are not. Staff feel moderately able to deal with external customers due to internal systems & constraints.	Structure encourages information sharing but provides limited opportunity for collaborative work across departments to solve problems & capitalise on opportunities.	Moderate readiness for change at most levels. Key employees are negative in response to change & prefer security of business as usual.	Change has been well managed in the past but primarily for small changes. Experience of large changes is not universally positive but small changes communicated & executed well.	Staff well supported by management in executing changes to systems. Management support & encouragement for changes to systems is passive.
2	Internal issues & systems take precedence over external customers. Staff feel unable to deal with external customers due to internal systems & constraints.	Structure encourages information sharing but does not encourage collaborative work across departments. Moderate departmental 'Tribe' culture.	Low readiness for change at many levels. Middle management has poor expectations of success in change implementation & does not see this as their role.	Change has been moderately managed in the past but only for small changes. Little experience of major change but small changes communicated & executed well.	Staff moderately supported by management only in small changes to systems. High-level management approval needed for even minor changes.
1	Internal & external customers are tolerated. Internal systems & constraints positively hinder efficient dealings with customers.	Structure discourages information sharing & collaborative work across departments. Strong departmental 'Tribe' culture.	Poor readiness for change at all levels. Low expectations of success for any change in systems.	Change has been poorly managed in the past. Change is primarily a reaction to noise with little communication. Change management has been minimal or ineffective.	Staff poorly supported by management & systems. Systems do not help staff carry out tasks. Only changes suggested by management are authorised.
0	Internal & external customers are regarded as an imposition on normal working. Employees treat internal & external customers as 'the opposition'.	Structure & dynamics of business encourages a 'not my job' attitude. Staff are disinterested in their job & office politics is a costly & consistent problem.	Organisation is stagnant. All efforts to change meet with resistance & 'we tried that before' attitude. Previous change efforts have always failed.	Change management non-existent in the past. Management makes significant changes based on perception not facts, without communication & without attempting to manage the process.	Staff have no support from managers & systems. Systems stop them getting the job done. Management appears to have no interest in helping them to succeed.
Score					

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2.   Environmental management systems

Clean, green and low cost

Environmental management is becoming more and more important as customers and legislators demand improvements in environmental performance. Major customers are already signalling that they see environmental performance and sustainability as key factors in where they place their business.

Some companies see this as a negative and fail to see that good environmental management can not only achieve and reduce the costs of meeting these demands but also reduce overall costs by reducing waste and improving operations. Forward-looking companies also see the considerable PR and other benefits of improving their environmental performance and being able to promote this (without resorting to greenwashing). Simple environmental measurements such as the carbon footprint are already being used to report performance on a wider scale and companies need to be ready for these changes.

Scoring

Environmental management systems
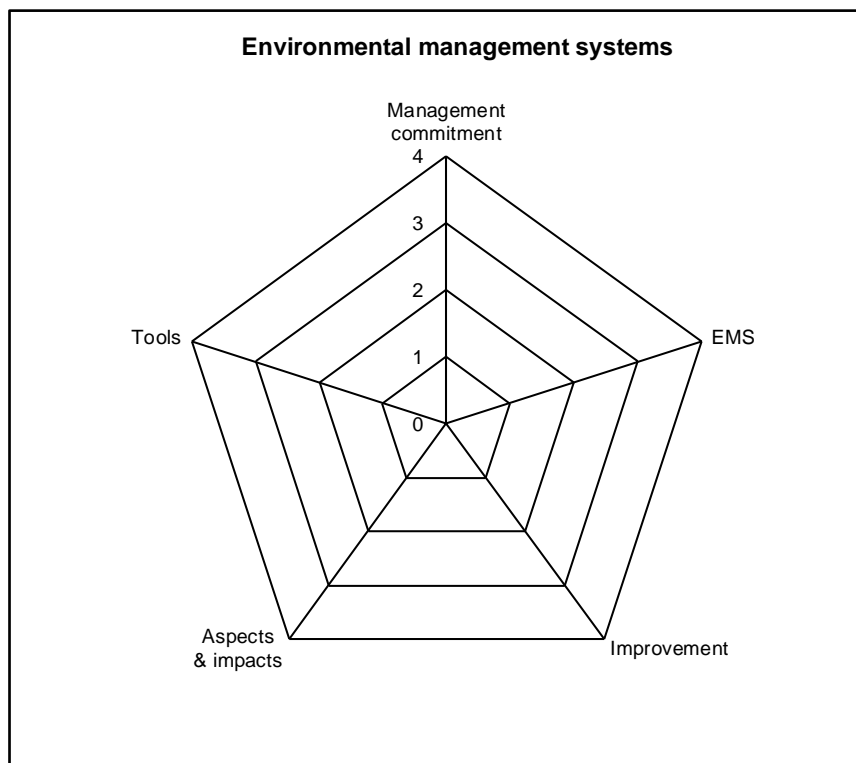
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Environmental management systems					3.2
Level	**Mgt.**	**EMS**	**Improving**	**Aspects & impacts**	**Tools**
4	Management is totally committed. Environmental policy is integral part of business, all resources provided, staff trained & have delegated authority.	Formal EMS in place with full external verification of system. No major non-conformances found in last 2 years.	Environmental improvement is a fundamental business goal. Improvement techniques used whether concerns present or not.	Full aspects & impacts assessment carried out. Active efforts to reduce major aspects & impacts.	Full range of improvement tools used to identify concerns, to determine root causes & to assess rectification actions.
3	Management has moderate commitment. Majority of requirements are in place but enforcement is sporadic.	Formal EMS in place with full external verification of system. No major non-conformances found in last year.	Environmental improvement is an important business goal. Improvement techniques only used when concerns are present & visible.	Partial aspects & impacts assessment carried out. Some efforts to reduce major aspects & impacts.	Good knowledge & use of improvement tools in environmental analysis & problem solving.
2	Management has low commitment & only really involved when problems occur. Basic requirements are in place but not enforced.	Formal EMS in place with full external verification of system. Significant major non-conformances found in last year.	Environmental improvement is a minor goal. Improvement techniques sometimes used when concerns are present & visible.	No formal aspects & impacts assessment carried out. Some efforts to reduce main perceived aspects & impacts.	Some knowledge of improvement tools & often used for analysis. Problems often solved but key concerns remain unsolved & reappear.
1	Management not committed. Some aspects of environmental management are in place due to middle management dedication but few resources available.	Formal EMS in place but no external verification of system.	Environmental improvement is not seen as a goal. Improvement techniques not used even when concerns are present & visible.	No formal aspects & impacts assessment carried out. Some efforts to reduce visible aspects & impacts (but possibly misdirected).	Little knowledge of improvement tools & rarely used. When used they are not fully follow ed through to completion. Same concerns return time & again.
0	Management not committed. No environmental policy, no resources, no training & no delegated authority.	No formal EMS in place.	Environmental improvement is not seen as a goal. Getting the product out the door is the only goal.	No concept of aspects & impacts of operations.	No knowledge or use of improvement tools.
Score					

3.   Energy management systems

Getting the basics right

Energy management is a new skill for many companies. The cost of energy has not previously been an issue and it is only in the last 10-15 years that energy has become a major financial cost. Energy cost rises are a feature all over the world and this is being driven not only by supply issues but also by taxation issues.

Cost is not the only driver for reducing the amount of energy used. The rise of new concepts such as 'carbon footprint' and 'sustainability' have also been drivers for energy use reduction.

These new issues are an opportunity for companies to not only become 'greener' but to also reduce costs. There is no conflict, you can be green and reduce costs!

Energy management systems can provide the basic structure for sustainability improvements by reducing energy use.

Note: See Part 7: Energy for more comprehensive charts in the area of energy management.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

| Level | \
Energy management systems					3.3
Level	**Energy policy**	**Organising**	**Motivation**	**Information systems**	**Marketing**	**Investment**
4	Energy policy, Action Plan & regular review have commitment of top management as part of an environmental strategy.	Energy management fully integrated into management structure. Clear delegation of responsibility for energy consumption.	Formal & informal channels of communication regularly exploited by energy manager & energy staff at all levels.	Comprehensive systems used to set targets, monitor consumption, identify faults, quantify savings & provide budget tracking.	Marketing of energy efficiency & energy management performance both internally & externally.	Positive discrimination in favour of 'green' schemes with detailed investment appraisal of all opportunities.
3	Formal energy policy, but no active commitment from top management.	Energy manager accountable to energy committee representing all users, chaired by a member of the managing board.	Energy committee used as main channel together with direct contact with major users.	Monitoring & targeting reports for individual premises are based on sub-metering. Savings not reported effectively to users.	Program of staff awareness & regular publicity campaigns.	Same payback criteria employed as for all other investment.
2	Unadopted energy policy set by energy manager or senior departmental manager.	Energy manager in post, reporting to ad hoc committee, but line management & authority are unclear.	Contact with major users through ad hoc committee chaired by senior departmental manager.	Monitoring & targeting reports based only on supply meter data. Energy unit has ad hoc involvement in budget setting.	Some ad hoc staff awareness training.	Investment using short-term payback criteria only.
1	An unwritten set of guidelines.	Energy management is the part-time responsibility of someone with limited authority or influence.	Informal contacts between engineering staff & a few users.	Cost reporting based on invoice cost details only. Engineer compiles reports for internal use within technical department.	Informal contacts used to promote energy efficiency.	Only low-cost measures taken.
0	No explicit policy.	No energy management or any formal delegation of responsibility for energy consumption.	No contact with users.	No information system. No accounting for energy consumption.	No promotion of energy efficiency.	No investment in increasing energy efficiency.
Score						

Energy and Sustainability Topics – Site Sustainability Review

4.   Health & safety management systems

Safe and sound

Health and safety systems are covered by legislation in most areas of the world and certain aspects will be mandatory. However, the benefits of a good health and safety management system are much more than simple compliance with legislation.

A good health and safety management system will protect a company's investment in their staff and also protect the general public.

If the health and safety system fails (for whatever reason) then the result can be either a minor or a major incident and a good health and safety management system will not only seek to prevent incidents but also include procedures for dealing with them if they occur.

Prompt and effective incident management can not only reduce the seriousness of an incident but also control and reduce the impact on the business.

Health and safety are also part of sustainability in terms of social responsibility (see Part 12: Social responsibility) and reporting sustainability (see Part 13: Reporting).

Scoring

Health and safety management systems
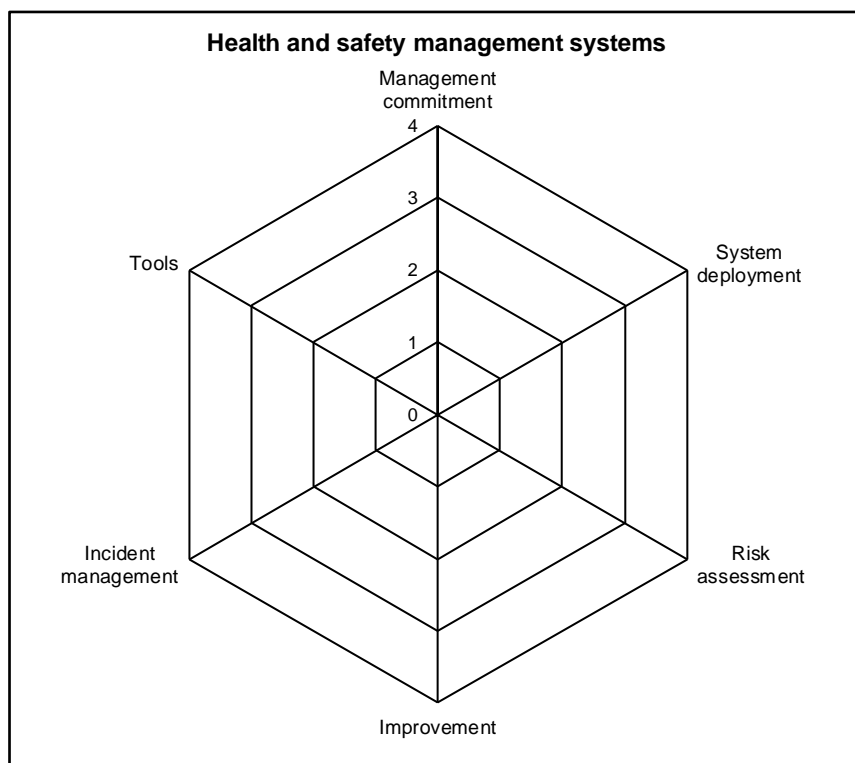
Energy and Sustainability Topics – Site Sustainability Review

	Health & safety management systems					3.4
Level	**Mgt.**	**System deployment**	**Risk assessed**	**Improving**	**Incidents**	**Tools**
4	Management is totally committed. H&S is integral part of business, all resources provided, staff trained & have delegated authority.	Formal H&S system in place with full external verification of system. No major non-conformances found in last 2 years.	All processes (major & minor) covered by full risk assessments. Action taken to minimise all risks identified.	H&S improvement is a fundamental business goal. Improvement techniques used whether concerns present or not.	Comprehensive incident management program in place. All potential incidents are covered by incident management plan.	Full range of improvement tools used to identify concerns, to determine root causes & to assess rectification actions.
3	Management has moderate commitment. Majority of requirements are in place but enforcement is sporadic.	Formal H&S system in place with full external verification of system. No major non-conformances found in last year.	All major processes covered by full risk assessments. Action taken to minimise most risks identified.	H&S improvement is an important business goal. Improvement techniques only used when concerns are present & visible.	Good incident management program in place. Most potential incidents are covered by incident management plan.	Good knowledge & use of improvement tools in identifying & reducing risks.
2	Management has low commitment & only really involved when problems occur. Basic requirements are in place but not enforced.	Formal H&S system in place with full external verification of system. Significant major non-conformances found in last year.	Some major processes not covered by risk assessments. Some identified actions not taken to minimise risks.	H&S improvement is a minor goal. Improvement techniques sometimes used when concerns are present & visible.	Poor incident management program. Few potential incidents are covered by incident management plan.	Some knowledge of improvement tools & often used for analysis. Problems often solved but key concerns remain unsolved & reappear.
1	Management not committed. Some aspects of H&S management are in place due to middle management but few resources available.	Formal H&S system in place but no external verification of system.	Most major processes not covered by risk assessments. Few actions taken to minimise risks.	H&S improvement is not seen as a goal. Improvement techniques not used even when concerns are present & visible.	No incident management program in place. Some informal procedures exist but not agreed or widely available.	Poor knowledge of improvement tools, rarely used & when used are not fully followed through to completion. Same concerns return time & again.
0	Management not committed. No H&S policy, no resources, no training & no delegated authority.	No formal H&S system in place.	No risk assessments carried out. Actions taken to minimise risks are minimal.	H&S improvement is not seen as a goal. Getting the product out the door is the only goal.	No incident management program in place. Any incident comes as a surprise. Reactions are unplanned & uncoordinated.	No knowledge or use of improvement tools.
Score						

Energy and Sustainability Topics – Site Sustainability Review

5.   Risk assessment
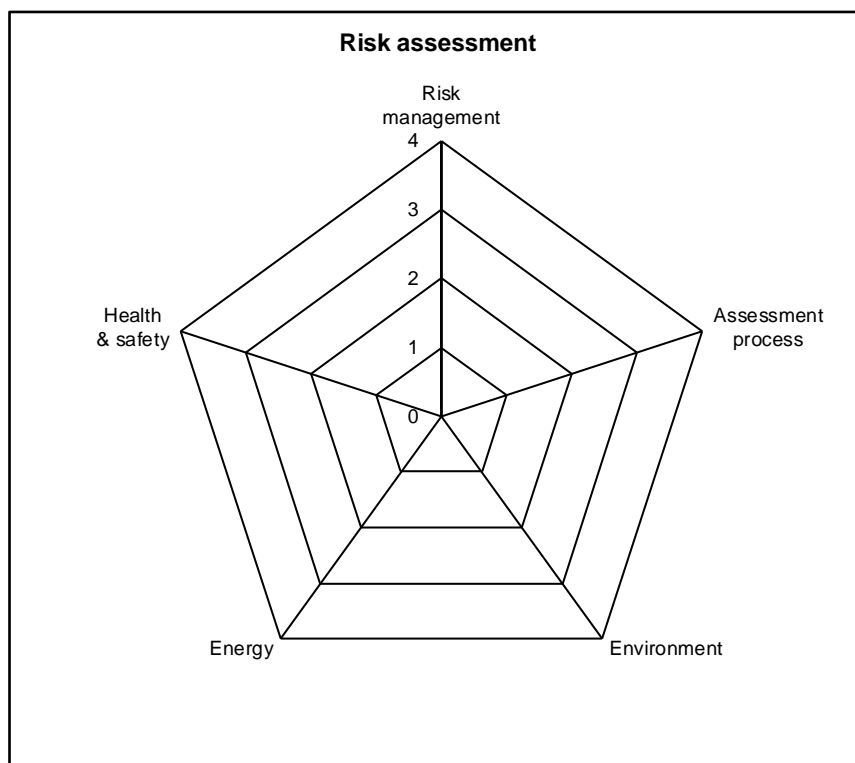
Failing to plan is planning to fail

An assessment of the risks and opportunities is a standard part of the ISO Annex L structure and is included in every MSS. Risks and opportunities need to be assessed for two functions:

The first function is assessing the operation of the system itself, i.e., what are the risks and opportunities of the system delivering the intended results. This is the main concern for an EnMS but is still important for an EMS and an OH&SMS.

The second function is assessing the potentially harmful effects that the system is attempting to control, i.e., what are the risks and opportunities that the system in trying to manage. This is the main concern for an EMS and an OH&SMS but is less of a concern for an EnMS.

Risk assessment and management of the identified risks are essential skills in improving sustainability.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

Risk assessment					3.5
Level	**Risk mgt.**	**Process**	**Environment**	**Energy**	**Health & safety**
4	Comprehensive risk reduction & management program in place. Plans are up to date & appropriate.	Formal & well documented risk assessment process available & used extensively.	Full environmental risk assessments carried out. Assessments follow well defined process & are well documented.	Planning process identifies risks & opportunities in energy management system. Assessments follow well defined process & are well documented.	Full health & safety risk assessments carried out. Assessments follow well defined process & are well documented.
3	Limited risk reduction & management program in place for very specific events, e.g. environmental issues. Plans are up to date & appropriate/	Formal risk assessment process available but rarely used.	Full environmental risk assessments carried out. Assessments follow poorly defined or inappropriate process but are well documented.	Planning process identifies risks & opportunities in energy management system. Assessments follow poorly defined or inappropriate process but are well documented.	Full health & safety risk assessments carried out. Assessments follow poorly defined or inappropriate process but are well documented.
2	Limited risk reduction & management program in place for very specific events, e.g. environmental issues. Plans are out-of-date or inappropriate.	Informal risk assessment process in place but used extensively or for a majority of areas.	Full environmental risk assessments carried out. Assessments follow poorly defined or inappropriate process & are poorly documented.	Planning process identifies risks & opportunities in energy management system. Assessments follow poorly defined or inappropriate process & are poorly documented.	Full health & safety risk assessments carried out. Assessments follow poorly defined or inappropriate process & are poorly documented.
1	No risk reduction & management program currently in place but plans in place for implementation.	Informal risk assessment process in place but rarely used or used for a minority of areas.	Informal environmental risk assessment carried out for some areas but poorly documented.	Informal risk assessment of energy management carried out for some areas but poorly documented.	Informal health & safety risk assessment carried out for some areas but poorly documented.
0	No risk reduction & management program in place & not planned.	No risk assessment process in place for any area.	No environmental risk assessments carried out.	No risk assessment carried out.	No health & safety risk assessment carried out at any stage. NOTE: This could contravene local legislation.
Score					

Part 4: Design

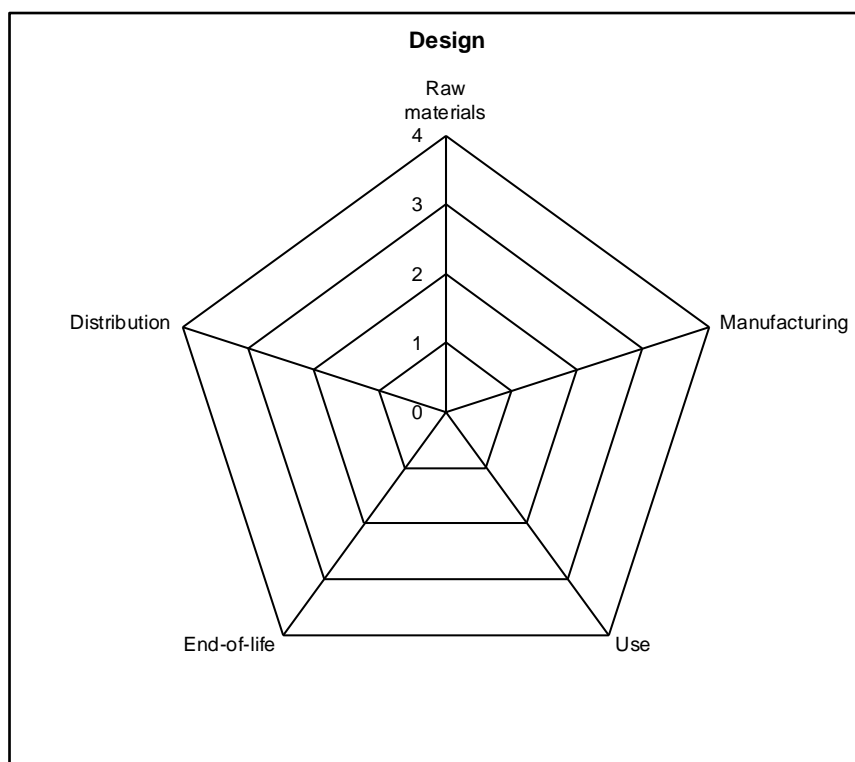### 1.   Design

Resource efficient design

Resource efficient design represents an outstanding opportunity for plastics processors to not only get ahead of the regulatory demands and reduce costs but also to establish an ethical lead in the market.

Resource efficient design can provide an incentive for the design team to lead cost reduction throughout the complete product life cycle.

Changes in legislation and markets will force many of these changes on processors whether they like it or not, but by becoming pro-active processors can win through cost reductions in all areas.

Resource efficient design is a growing trend and sensitive customers at all points on the supply chain are starting to ask for the basics of resource efficient design, e.g., Walmart is already asking suppliers to complete their list of 15 sustainability questions which concentrate on issues such as energy use, material efficiency, natural resources and people and community. This is the start of things to come.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Design				4.1
Level	**Raw materials**	**Manuf.**	**Use**	**End-of-life**	**Distrib.**
4	Use of raw & recycled materials is an integral part of design brief. Impact & cost of raw materials (all areas) are known & targets achieved.	Resource use & environmental impacts of manufacturing an integral part of design brief. All benchmark resource use targets known & achieved.	Resource use & environmental impacts in use stage an integral part of design brief. All benchmark resource use targets known & achieved.	Disposal options & routes are an integral part of design brief. Cost of disposal targets are known & achieved with disposal routes well defined.	Distribution considered as an integral part of design brief. Distribution cost targets are known & targets achieved.
3	Use of raw & recycled materials considered in design brief. Impact & cost of raw materials targets available but not always achieved.	Resource use & environmental impacts of manufacturing considered in design brief. Most benchmark resource use targets available & achieved.	Resource use & environmental impacts in use stage considered in design brief. Most benchmark resource use targets available & achieved.	Disposal options & routes considered in design brief. Cost of disposal targets available but not always achieved.	Distribution considered in design brief. Distribution cost targets available but not always achieved.
2	Use of raw & recycled materials poorly considered in design brief. Limited raw materials use targets available & achievement is variable.	Resource use in manufacturing considered in design brief. Limited benchmark resource use targets available & achievement is variable.	Resource use in use stage considered in design brief. Limited benchmark resource use targets available & achievement is variable.	Disposal options & routes poorly considered in design brief. Limited cost of disposal targets available & achievement is variable.	Distribution costs poorly considered in design brief. Limited distribution cost targets available & achievement is variable.
1	Use of raw & recycled materials considered only for publicity purposes. No benchmarks for impact & cost of raw materials available or considered.	Resource use in manufacturing considered only in cost reduction element of design brief. No benchmarks for resource use available or considered.	Resource use in use stage considered only for publicity purposes. No serious benchmarks for resource use available or considered.	Disposal options & routes considered only for publicity purposes. No serious benchmarks for cost of disposal available or considered.	Distribution costs considered only for publicity purposes. No serious benchmarks for distribution costs available or considered.
0	Resource use in raw materials is not considered in design brief.	Resource use in manufacturing is not considered in design brief.	Resource use in use stage is not considered in design brief.	Disposal options, routes & cost of disposal not considered in design brief.	Resource use in distribution is not considered as part of the design brief.
Score					

Part 5: Raw material
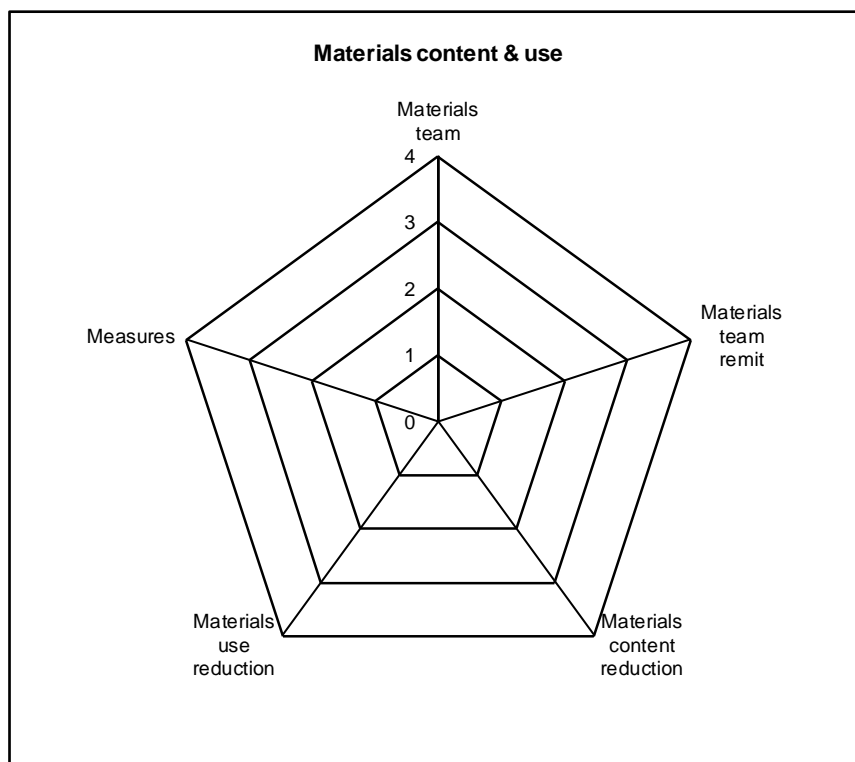
1.   Materials content and use

Managing materials use

Minimising materials use is a key to both environmental and economic sustainability, i.e., doing good can also be profitable. Many companies have recognised this and taken significant action but there is still more to do in reducing materials use. This is not the same as managing the costs by watching the polymer cost indices and adjusting your expectations or attempting to adjust your prices. Taking material out of the product at either the design or production stage permanently reduces the product cost whatever the raw material prices do.

This is a prize worth having and yet many companies fail to attack the issue with sufficient rigour or organisation. The materials content and use process crosses too many departmental boundaries for companies organised along functional lines. The Materials Team is one way to organise the company to manage materials use and content issues but companies must accept the need for a cross-functional approach to this concern.

The Materials Team must be target driven and an initial target of an 8% total reduction in materials content and use for the same output of saleable product is recommended.

Scoring

Materials content & use

Energy and Sustainability Topics – Site Sustainability Review

	Materials content & use				5.1
Level	Materials Team	Materials Team remit	Materials content reduction	Materials use reduction	Measures
4	Materials Team formed & active for both current & new products. Materials content & use extensively & rigorously controlled.	Materials Team has power & responsibility to make substantial changes to materials content & use.	Formal & aggressive materials content reduction target set (>8%). Target monitored & achieved.	Formal & aggressive materials use reduction target set (>8%). Target monitored & achieved.	Excellent measurement of materials cost reductions against aggressive targets. Excellent measurement of Materials Team performance against specific targets.
3	Materials Team for content reduction for new & existing products. Materials use for current products is production responsibility only.	Materials Team has power & responsibility to make only minor changes to materials content & use.	Formal but non-challenging materials content reduction target set (<4%). Target monitored but not achieved.	Formal but non-challenging materials use reduction target set (<4%). Target monitored but not achieved.	Good monitoring & targeting of materials cost reductions against moderate targets. Good monitoring of Materials Team performance against moderate targets.
2	Materials Team for new product content reduction by design team. Existing products not considered. Materials use for current products is production responsibility only.	Materials Team has responsibility for materials content & use but little power to actually implement decisions.	Informal & challenging materials content reduction target set. Target not monitored & rarely achieved.	Informal & challenging materials use reduction target set. Target not monitored & rarely achieved.	Some monitoring & targeting of materials cost reductions but against poorly defined targets. Few measurements of effectiveness of materials use & against poorly defined targets.
1	Materials content & use reduction is low priority & managed by single function.	Materials Team has advisory role only. Team makes recommendations only. Recommendations often overruled by other managers.	Informal but non-challenging materials content reduction target set. Failure to achieve target is regarded as normal & acceptable.	Informal but non-challenging materials use reduction target set. Failure to achieve target is regarded as normal & acceptable.	Poor monitoring & targeting for materials cost reductions. Only vague idea of effectiveness of materials use, i.e., some measurements available.
0	No central contact for materials content or use reduction.	No Materials Team in operation.	No targeting for materials content reduction at site.	No targeting for materials use reduction at site.	No monitoring & targeting for effective materials cost reductions. No cost monitoring or targeting for materials use, e.g., cost/purchase order.
Score					

Energy and Sustainability Topics – Site Sustainability Review

2.   Materials recovery
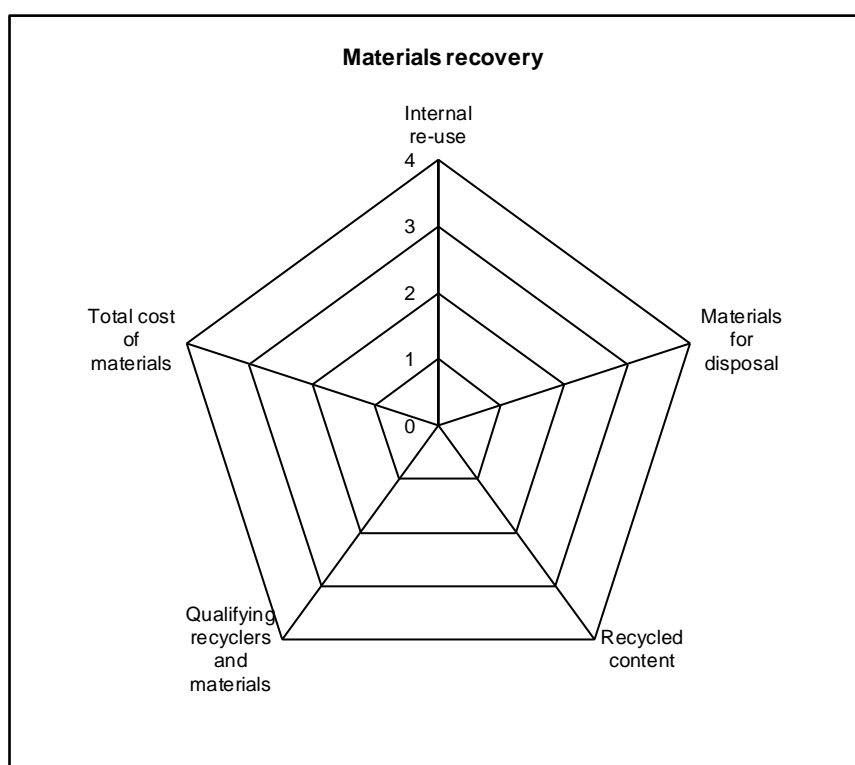
Use the molecules wisely

How plastics processors use and treat raw materials is an important measure of their sustainability and it is growing in importance with the concept of the circular economy. As an industry, we must make sure that every piece of plastic we buy makes it into a product and that the products sent out of our factories are captured in a waste management system at the end of their life to be recycled back into new products.

Not all of this process is within the industry's control but processors can help by maximising material utilisation and providing a market for the materials that are recycled at the end of life. This is not simply an aspiration for sustainability but is also a cost control measure.

Legislation is increasingly making Enhanced Producer Responsibility part of the landscape and this brings cost advantages to using recycled materials or, more correctly, cost disadvantages to using virgin materials.

Processors need to start making smart materials choices to minimise impacts and costs in the future.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Materials recovery				5.2
Level	**Internal re-use**	**Materials for disposal**	**Recycled content**	**Qualifying materials**	**Total cost of materials**
4	All possible materials re-used internally.	No landfill waste stream at all. All materials, including plastics, recycled by registered & approved recyclers.	Use of external recycled content is maximised for all products (> 50% of materials used are externally recycled materials).	Certified recyclers used for all materials. Full traceability available for all materials. Data sheets & MSDS available for all materials. Recycled content declared.	Excellent understanding of compliance costs & these are managed well. Total cost of materials (purchase price + compliance costs) used for cost of materials calculation
3	Internal re-use of materials is high (> 75% of available materials are internally re-used).	Good sorting of plastics from materials being sent for disposal. No plastic materials in landfill waste stream. No plastics materials sent for disposal.	Good use of externally recycled content (> 30% of materials used are externally recycled materials).	Certified recyclers used for most materials. Traceability available for most materials. Data sheets & MSDS available for most materials. Recycled content declared.	Good understanding of compliance costs. Compliance treated as a manageable cost. Cost of materials includes compliance costs for most products.
2	Internal re-use of materials is good (> 50% of available materials are internally re-used).	Average sorting of plastics from materials being sent for disposal. Small amounts of plastic in landfill waste stream.	Moderate use of externally recycled content (> 15% of materials used are externally recycled materials).	Certified recyclers used for some materials. Traceability available for some materials. Data sheets & MSDS available for some materials. Recycled content not declared.	Moderate understanding of compliance costs. Compliance treated as a fixed cost. Cost of materials includes compliance costs for few products.
1	Internal re-use of materials is low (< 25% of available materials are internally re-used).	Poor sorting of plastics from materials being sent for disposal. Significant amounts of plastic in landfill waste stream.	Minimal use of externally recycled content (< 5% of materials used are externally recycled materials).	Recyclers locally approved but no certification. Traceability not available. Data sheets & MSDS available for some materials. Recycled content not declared.	Poor understanding of compliance costs. Compliance treated as a fixed cost. Cost of materials for products is based only on purchase price.
0	No internal re-use of materials.	No sorting of materials being sent for disposal & large amounts of plastic in waste in landfill waste stream.	No externally recycled materials used in products.	Recyclers locally approved but no certification. Traceability poor. Poor materials definition. Recycled content not relevant to product (cost reduction only).	No consideration of compliance costs. Cost of materials for products is based only on the purchase price.
Score					

Energy and Sustainability Topics – Site Sustainability Review

Part 6: Procurement
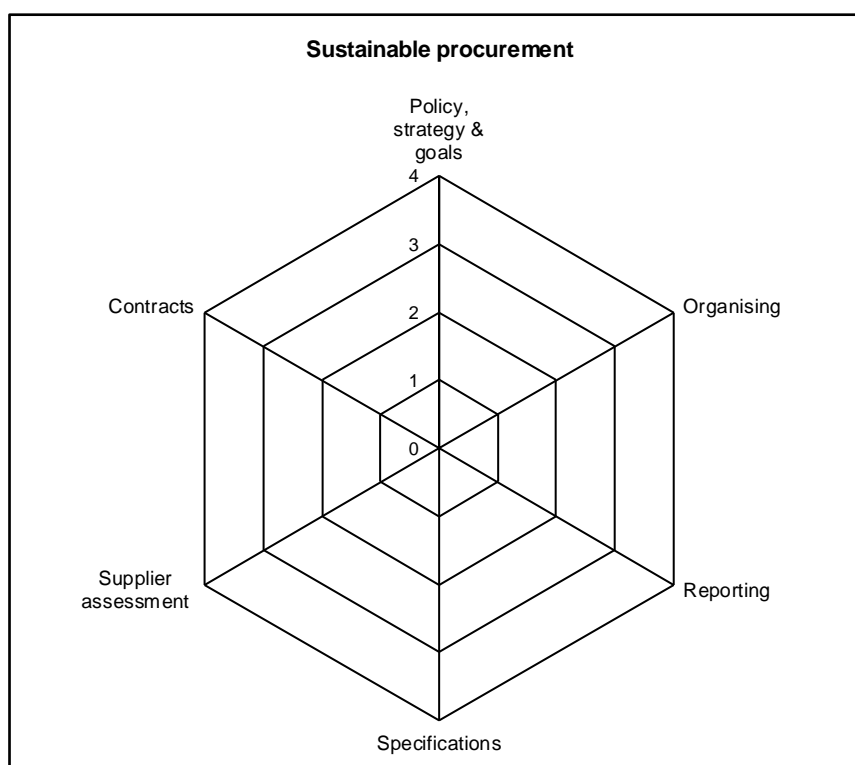
1.   Sustainable procurement

Good procurement reduces impacts

The high value of raw materials in relation to turnover makes procurement a key area in reducing the sustainability impact of plastics processors. There is a high potential reputational risk from poor procurement and easy wins can be made in this area.

Sustainable procurement also raises the profile of procurement professionals and gives them an added skill to help the company prosper in social, environmental and economic terms. Their skills in integrating suppliers into the Materials Team, helping them to improve sustainability performance and ensuring that purchased goods and services have low impacts can ensure that the actual price paid is both fair and reasonable.

Procurement is not simply about prices, it is also about managing the product life-cycle, getting specifications and contracts defined so that the supplier has a chance to reduce both impacts and prices.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

Sustainable procurement					6.1
Level	**Policy, strategy & goals**	**Organising**	**Reporting**	**Specs.**	**Supplier assess.**	**Contracts**
4	Policy, strategy, objectives & goals available. Consistent with company policy, strategy, objectives & goals.	Procurement integrated into sustainability activities. All suppliers involved in process. Priorities set for improvement.	Good metrics consistently used. Reported widely. Internal & external benchmarks used.	Clear & concise specifications set with supplier to use supplier's skills. Specification includes sustainability requirements.	Supplier assessment for all sustainability issues, e.g., environmental, social & economic. Reputational risk minimised.	Cost based on life-cycle costing. Supplier treated as partner & relationship managed well. Contract review looks at overall performance.
3	Policy & strategy available but no objectives or goals set. Policy &strategy are consistent with company policy & strategy.	Procurement integrated into sustainability activities. Most suppliers involved in process. Some priorities set for improvement.	Good metrics consistently used. Internal reporting only. Internal benchmarks only.	Good specifications but little use of supplier's skills. Specification includes sustainability requirements.	Supplier assessment for most sustainability issues, e.g., social & environmental. Low reputational risk.	Cost based on total cost of ownership. Supplier treated as partner & relationship managed well. Contract review looks at overall performance.
2	Objectives & goals set but no policy or strategy available. Objectives & goals are consistent with company objectives & goals.	Some integration into sustainability activities. Some suppliers involved in process. Some priorities set for improvement.	Some consistent metrics used. Internal reporting only. Internal benchmarks only.	Specifications exist but considerable room for improvement in use of supplier's skills. No consideration of sustainability issues.	Supplier assessment for limited sustainability issues, e.g., social only. Moderate reputational risk.	Purchase cost assessment only. Supplier treated as partner with good relations. Contract review looks at overall performance.
1	Policy, strategy, objectives & goals available. Inconsistent with company policy, strategy, objectives & goals.	Little integration into sustainability activities. Suppliers not involved in process. Few priorities set for improvement.	Some metrics but inconsistent use. No reporting. No benchmarks used.	Poor & ambiguous specifications arbitrarily imposed on suppliers. No consideration of sustainability issues.	Supplier assessment with no focus on sustainability issues. High reputational risk.	Purchase cost assessment only. Adversarial contract handling with poor relations. Poor contract review.
0	No policy, strategy, objectives or goals available.	Procurement seen as separate to sustainability. No engagement with supply chain. No priorities for improvement set.	No metrics available. No reporting used. No benchmarks used.	Specifications are non-existent or vague. Frequent disputes with suppliers over standards & no consideration of sustainability issues.	Supplier assessment not carried out. Purchase cost assessment only. Very high reputational risk.	Purchase cost assessment only. Poor contract handling process, supplier is the 'enemy'. No contract review process.
Score						

Energy and Sustainability Topics – Site Sustainability Review

Part 7: Energy
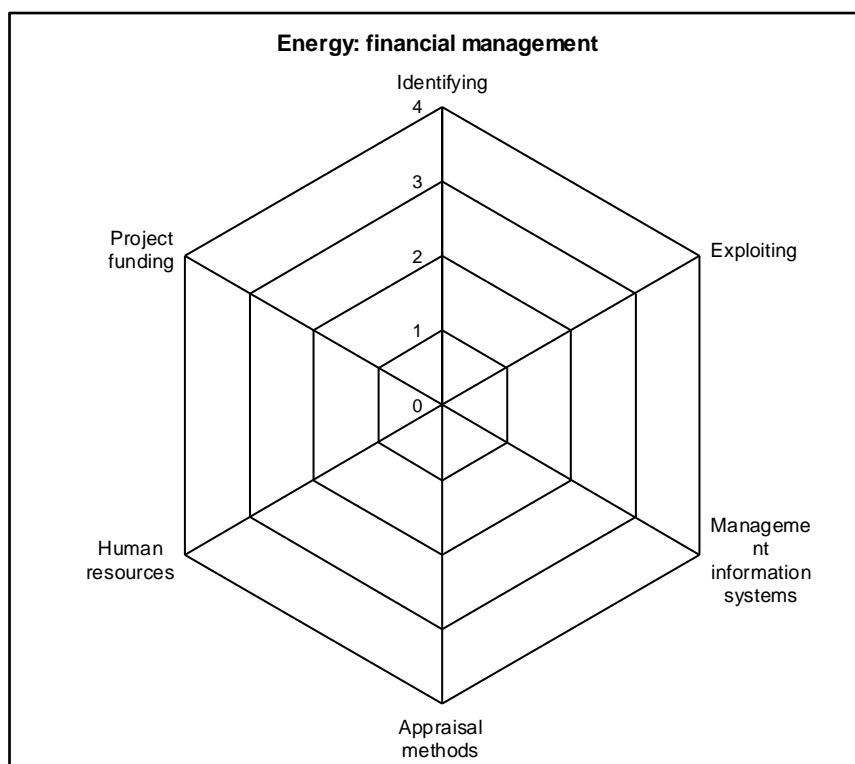
1.   Energy – financial

Without money it won't happen

Energy management is the same as any other project or process – starve the process of adequate and appropriate investment and it will fail. All projects, even nominally no-cost and low-cost projects need investment in staff time and much progress can be made in these areas.

Eventually, the process will exhaust the no-cost and low-cost projects and the process will require financial investment of some magnitude and this must be justified before progress can be made.

Energy management does not require preferential funding. Most energy management projects can easily meet the standard investment hurdles and analysis that are in place at most sites. The main concern is that energy management receives the appropriate level of funding for the benefits that it can deliver.

Scoring

Energy: financial management

Energy and Sustainability Topics – Site Sustainability Review

Energy - financial					7.1
Level	**Identifying**	**Exploiting**	**Information systems**	**Appraisal methods**	**Human resources**	**Project funding**
4	Detailed energy surveys regularly updated. Opportunities already costed & ready to proceed.	Formal requirement to identify the most energy-efficient option. Decisions made on the basis of life cycle costs.	Full management information system enabling identification of past savings & further opportunities for investment.	Full discounting methods using internal rate of return & ranking priority projects as part of an ongoing investment strategy.	Board takes a proactive approach to long-term investment as part of a detailed environmental strategy in full support of the energy team.	Projects compete equally with other areas. Full account taken of indirect benefits, e.g., marketing opportunities, environmental factors.
3	Energy surveys conducted for areas likely to yield largest savings.	Energy staff required to comment on all projects. Energy efficiency options often approved but no account is taken of life cycle costs.	Promising proposals are presented to decision-makers but insufficient information, e.g., sensitivity or risk analysis, results in delays or rejections.	Discounting methods using the organisation's specified discount rates.	Energy manager presents well-argued cases to decision makers.	Projects compete for capital along with other business opportunities, but have to meet more stringent requirements for return on investment.
2	Regular energy monitoring / analysis used to identify possible areas for saving.	Energy staff notified of all proposals that affect energy usage. Proposals for energy savings are at risk when capital costs are reduced.	Adequate management information available, but not in the correct format or easily accessed.	Undiscounted appraisal methods, e.g., gross return on capital.	Occasional proposals to decision makers by energy managers with limited success & only marginal interest from decision makers.	Energy projects not formally considered for funding, except for very short-term returns.
1	Informal ad hoc energy walkabouts conducted by staff with checklists to identify energy saving measures.	Energy staff use informal contacts to identify projects where energy efficiency can be improved at marginal cost.	Insufficient information to demonstrate whether previous investment has been worthwhile.	Simple payback criteria are applied. No account taken of lifetime of the investment.	Responsibility unclear & those involved lack resources to identify projects & prepare proposals.	Funding only available from revenue on low risk projects with paybacks of less than one year.
0	No mechanism or resources to identify energy-saving opportunities.	Energy efficiency not considered in new-build, refurbishment or plant replacement decisions.	Little or no information available to develop a case for funding.	No method used irrespective of the attractiveness of a project.	No-one in organisation promoting investment in energy efficiency.	No funding available for energy projects. No funding in the past.
Score						

Energy and Sustainability Topics – Site Sustainability Review

2.   Energy – technical
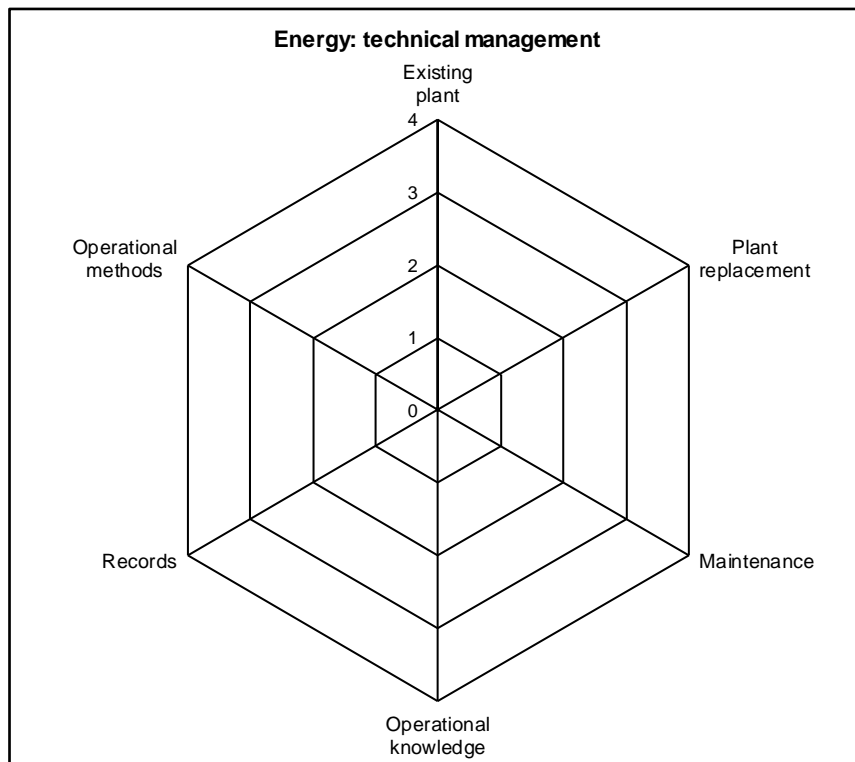
The plant is the thing

The distribution of energy use in plastics processing is very different to that in an office, the major energy users are the services and the plastics processing machinery and this is where the efforts must be concentrated.

This requires good technical knowledge of the services and processes used and good technical management of the processing itself.

This chart tries to provide an assessment of these technical aspects of energy management.

Even when the majority of the operational plant was not originally designed with energy efficiency in mind there are many simple actions that can be taken to improve the energy efficiency of existing plant. These range from good maintenance action, where simple low-cost tasks, such as the alignment of motor drives, can easily reduce energy use for existing plant through to involving the operators to reduce energy use.

Scoring

Energy: technical management

Energy and Sustainability Topics – Site Sustainability Review

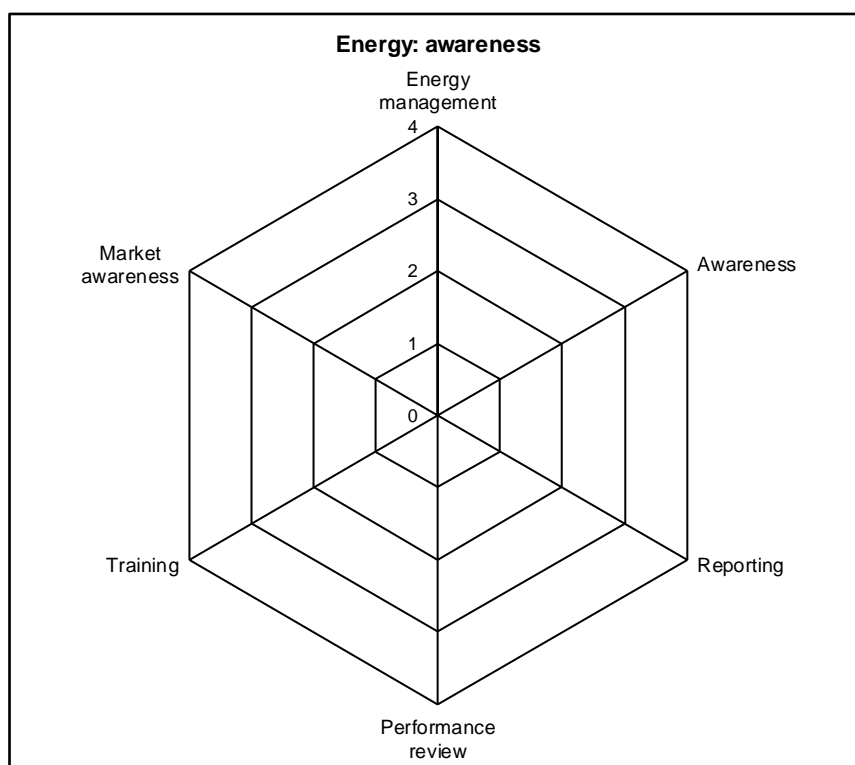|	Energy - technical					7.2
Level	Existing plant	New plant	Maintaining	Operational knowledge	Records	Operational methods
4	Majority of existing equipment uses best practice energy efficient features, is correctly commissioned & well maintained.	Equipment chosen is the most appropriate for application. Life cycle costs & energy efficiency are major factors in selection.	Maintenance is based on needs, with condition appraisal used for all equipment & fabric elements affecting energy efficiency. Results acted upon.	Staff know how their actions affect energy efficiency & take positive steps to minimise energy use. Staff have targeted training in energy issues	Detailed descriptions of systems, plant control & operation. Detailed schedules of all plant, instrumentation & controls.	Operational methods & settings for energy efficiency well defined & implemented. Full utilisation of feedback from monitoring.
3	Equipment & plant is appropriately selected, energy efficient, commissioned for low energy consumption & well maintained.	Equipment is appropriate for application with energy efficiency considered. Life cycle costs & energy efficiency are evaluated.	Regular surveys carried out on equipment & fabric elements affecting energy efficiency. Action undertaken for most defects identified.	Staff are aware of how they affect energy use & take all good housekeeping measures to save energy. Training on a regular basis.	Detailed descriptions of plant control & operation, & outline systems. Reasonable schedules of all plant, instrumentation & controls.	Operational methods & settings for energy efficiency poorly defined & implemented. Informal use of information from monitoring.
2	Most equipment is not specifically energy efficient, but either was commissioned or is being regularly maintained for low energy consumption.	Equipment selected to be fit for purpose, bearing in mind likely life cycle costs & energy efficiency factors.	Condition surveys carried out regularly on all equipment & fabric elements affecting energy efficiency. Remedial work constrained by budgets.	Most good housekeeping practices are adhered to in an attempt to reduce energy usage. Occasional energy efficiency training	Basic descriptions of plant control & operation. Basic plant, instrumentation & control schedules for most control systems.	Targets set against realistic budgets, & maintained through financial procedures.
1	Equipment is not energy efficient, but has been commissioned for economy & undergoes periodic maintenance.	Power efficiency data on products obtained as part of selection process.	Condition surveys carried out occasionally, prompted by plant failure or safety considerations. Remedial work only carried out on major defects	Energy-saving techniques are only adopted where they can be easily accommodated within traditional working practices.	Minimal or poor plant control & operation. Plant instrumentation & control schedules for only some of the plant & control systems.	Targets set by default through budget setting procedures.
0	Energy performance has not been considered during the procurement, commissioning or maintenance of existing plant & equipment.	No consideration of energy efficiency in product selection.	No regular surveys or maintenance carried out.	No consideration is given to energy efficiency during working operations.	None available.	No targets set.
Score						

38

3.   Energy – awareness

Knowledge is the key

As with any new area there is a need to both specify what people are going to do and to ensure that they are aware of their responsibilities.

One of the keys to energy management is 'show results to get resources' and there is a need for clear reporting of successes in energy management both to get resources and to motivate the team. Equally there is a need to provide all staff with training and development opportunities. A training course on variable speed drives may appear a luxury but if it saves real money then it is a good investment in both the staff and the company.

Energy management is a rapidly developing field and there are very few people with experience or understanding of this area – keep staff well trained and up-to-date with the latest market developments.

Scoring

Energy: awareness

Energy management
Awareness
Reporting
Performance review
Training
Market awareness

Energy and Sustainability Topics – Site Sustainability Review

| Energy - awareness						7.3
Level	Energy mgt.	Awareness	Reporting	Review	Training	Market awareness
4	Lists of responsibilities & their assignment exist & are comprehensive & regularly reviewed. All staff have responsibilities.	Energy efficiency status regularly given to all staff. Full use made of publicity. All methods used to promote new measures for saving energy	Wide reporting of current status compared with best practice, on regular basis & for a range of audiences. Full support to public statements.	Progress regularly reviewed. Performance compared against internal & external benchmarks. Ideas actively sought.	Training properly resourced for technical & premises staff. Active technical library. All staff have access to an energy efficiency library	Keep abreast of technological developments by monitoring of trade journals, literature & other sources on issues affecting energy efficiency.
3	Lists of responsibilities & their assignment exist for key energy staff & all departments.	Energy efficiency status presented to all staff at least annually. Occasional but widespread publicity to promote energy saving.	Status reports issued annually to shareholders & staff. Impartial reporting of performance to staff & departments on a regular basis.	Frequent energy efficiency reviews using monitored consumption & cost data. Analysis is regular, wide-ranging but ritualistic.	Some professional development for technical staff. Some staff are aware of & have access to an energy efficiency library.	Regular studies carried out on trade journals, literature & other sources to assess current developments impacting on energy efficiency.
2	Some staff & departments have written responsibilities.	Energy performance presented to staff on a regular basis. Occasional use of publicity to promote energy saving.	Occasional issue of energy efficiency status reports. Concentrates on good news.	Occasional technical energy efficiency reviews. Regular cost checks with exception reporting. Analysis of limited scope.	Technical & premises staff development by professional & technical journals. Occasional initiatives to train staff in energy efficiency.	Trade journals, literature & other sources scanned on an ad-hoc basis for information on developments relating to energy efficiency.
1	Unwritten set of responsibility assignments.	Energy performance occasionally reported & known to very few staff. Energy-saving measures are rarely promoted.	Reports only issued if prompted by a business need. Most reports will contain only good news.	Energy review activity based on revenue costs. Limited exception reporting only.	Few staff have knowledge of energy efficiency techniques & facts. Little training in energy efficiency for staff.	Trade journals, literature & other sources studied for energy implications when a purchase is imminent.
0	No evidence of assignment of energy efficiency tasks & duties.	No staff have explicit responsibilities or duties.	No reporting.	No monitoring activity to underpin review processes	Staff have little, if any, knowledge of energy efficiency. No attempt to inform staff of techniques & benefits of energy efficiency	Energy efficiency not a consideration when keeping up to date on products or technology.
Score						

Part 8: Carbon Footprinting

1.   Carbon footprinting

Assessing the impact

Carbon footprinting assesses the impact that a site or organisation has on the atmosphere and is a performance metric that is growing in importance. External organisations are increasingly asking suppliers for access to carbon footprint calculations and every site should be assessing this impact.

Good energy management for plastics processing companies will not only reduce the amount of energy used and the cost of this but will also reduce the carbon footprint. Companies may embark on energy management primarily for the cost benefits but calculating and monitoring the carbon footprint will also reveal the benefits to society of good energy management.

Scoring

Carbon footprinting
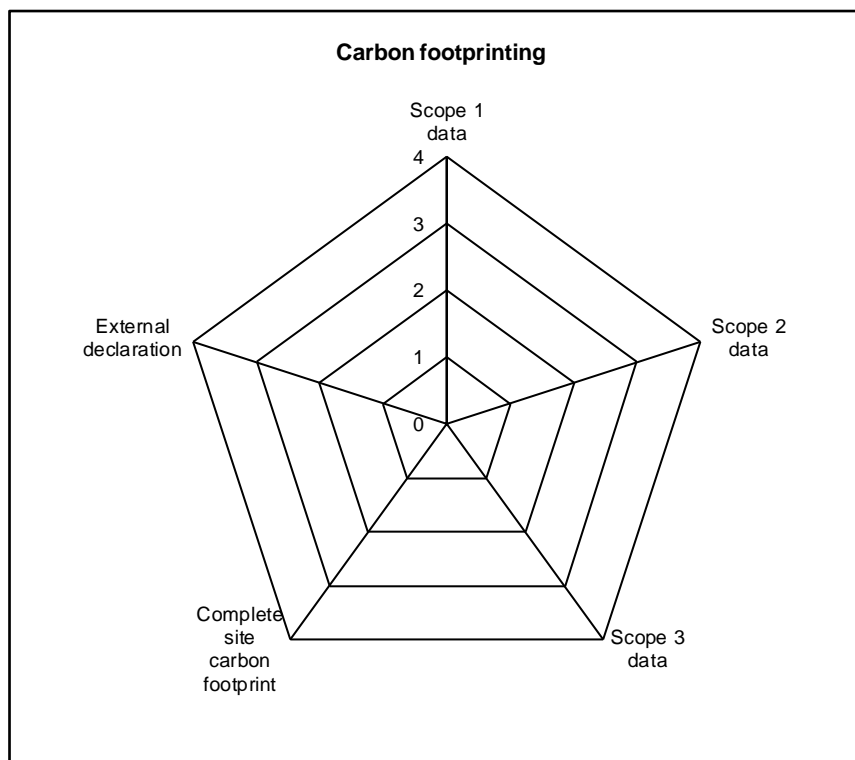
Energy and Sustainability Topics – Site Sustainability Review

	Carbon footprinting				8.1
Level	**Scope 1 data**	**Scope 2 data**	**Scope 3 data**	**Complete site carbon footprint**	**Externally declared**
4	All relevant Scope 1 data collected on a monthly basis using existing accounting systems for greater accuracy.	Scope 2 emissions from electricity calculated using supplier's current specific carbon intensity for generation.	All relevant Scope 3 data collected on a regular basis using existing accounting systems for greater accuracy.	All relevant data for Scopes 1 to 3 combined on a monthly basis using existing accounting systems for greater accuracy.	Full external declaration of organisation carbon footprint for Scopes 1 to 3.
3	All relevant Scope 1 data collected on an annual basis using existing accounting systems.	Scope 2 emissions from electricity calculated using area or region carbon intensity for generation.	All relevant Scope 3 data collected on an annual basis using existing accounting systems.	All relevant data for Scopes 1 to 3 combined on an annual basis using existing accounting systems.	Full external declaration of site carbon footprint for Scopes 1 to 3.
2	All relevant Scope 1 data estimated on an annual basis.	Scope 2 emissions from electricity calculated using general country carbon intensity for generation.	All relevant Scope 3 data estimated on an annual basis.	All relevant data for Scopes 1 to 3 combined on an annual basis using good estimates for a number of factors.	Full external declaration of organisation carbon footprint for Scopes 1 & 2.
1	Some relevant Scope 1 data not calculated at all.	Scope 2 emissions from electricity calculated using unvalidated carbon intensity factor for generation.	Some relevant Scope 3 data not calculated at all.	Scope 1 & 2 data combined for partial carbon footprint. No Scope 3 data estimated or included.	Full external declaration of site carbon footprint for Scopes 1 & 2.
0	No calculation of Scope 1 data.	No calculation of Scope 2 data.	No calculation of Scope 3 data.	No complete site carbon footprint prepared.	No external declaration of organisation or site carbon footprint.
Score					

Energy and Sustainability Topics – Site Sustainability Review

Part 9: Water
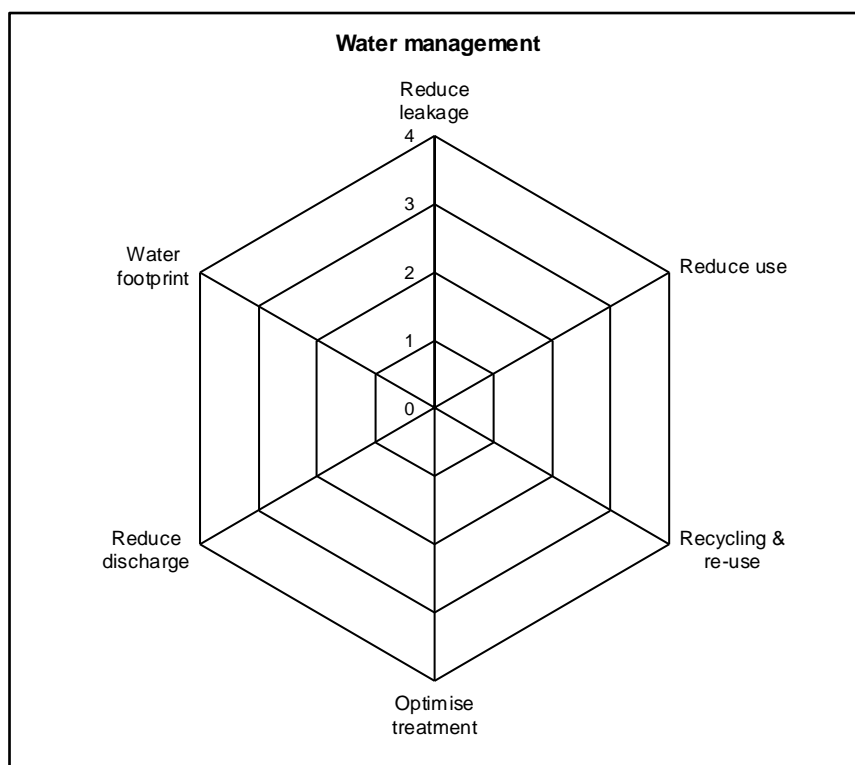
1.   Water management

Use it wisely

Water management is often neglected in plastics processing because the main processes do not generally use much water. Despite this, good water management can improve a site's sustainability and reduce costs. The benefits are also often easily and quickly achieved because it is not an area that many plastics processors have concentrated on before.

The water management programme sets out a series of actions to enable a site to assess water use, to identify the areas of excessive leakage or use and provides the tools and techniques to minimise these.

Water is unique amongst the services where the standard process is to reduce the demand and then to optimise the supply. With water it is also necessary to reduce the effluent discharges to minimise the environmental impact and costs.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Water management					9.1
Level	**Reduce leakage**	**Reduce use**	**Recycling & re-use**	**Optimise treatment**	**Reduce discharge**	**Water footprint**
4	Inspection & remedial action carried out for all areas w ithin last 6 months.	Water use reduced to practical minimum in all areas.	All potential recycling & re-use opportunities investigated & implemented. Discharges minimised.	Water treatment fully optimised & automatically controlled to reduce treatment to practical & regulatory minimum. External input to process.	Discharges w ell controlled to minimise volume, COD & suspended solids.	Full w ater footprint completed for direct & indirect blue & grey w ater use.
3	Inspection & remedial action carried out for all areas w ithin last 12 months.	Water use minimised in processes.	Water re-use carried out w here w ater does not require any treatment.	Water treatment manually controlled for all systems. External input to process.	Discharges w ell controlled to minimise volume only.	Water footprint completed for direct (internal) blue & grey w ater use.
2	Inspection & remedial action carried out for all areas w ithin last 2 years.	Water use minimised in services.	Limited w ater recovery & re-use carried out.	Water treatment manually controlled for open systems but poor or no control on closed systems. External input to process.	Discharges currently uncontrolled & w ithin permits. Discharge reduction considered but no action taken.	Water footprint completed for direct (internal) blue w ater use only.
1	Inspection & remedial action for facilities only carried out w ithin last 2 years.	Water use minimised in facilities & heating.	Minimal w ater recovery & w ater re-use.	Water treatment excessive & uncontrolled. No external input to process.	Uncontrolled discharges (w ithin permits) & no consideration of reducing discharges.	Some know ledge of w ater footprint concept & implications.
0	No inspection or remedial action carried out for any area in previous 5 years.	No effort made to reduce w ater use in any area.	No w ater recovery or re-use	Water treatment inadequate w ith potential for breach of regulations, health risks or damage to systems.	Uncontrolled discharges & potentially breaching discharge permits.	No know ledge of w ater footprint concept.
Score						

Energy and Sustainability Topics – Site Sustainability Review

Part 10: Waste minimisation

1.   Waste minimisation

### Waste minimisation saves money and the environment

Waste is a major factor in sustainability, reducing the amount of waste at any site will improve sustainability credentials and reduce impact on the environment. It is also an overhead that is rarely treated with any seriousness by most management teams.

Waste is seen as 'what is in the skips' and not in the broader sense of anything that does not add value to the process or the product.

Simple but organised action to reduce waste can reduce operating costs by 10% and the company can become 'greener' by reducing waste and discharges to the environment. Waste of materials is very similar to a waste of energy. They are both the result of management failing to notice that the world has changed and that reducing the cost of direct labour is no longer the only key component of the cost of operations.

Failing to have a plan to reduce the cost of waste is not only bad for sustainability but also financially bad for most companies.

Scoring
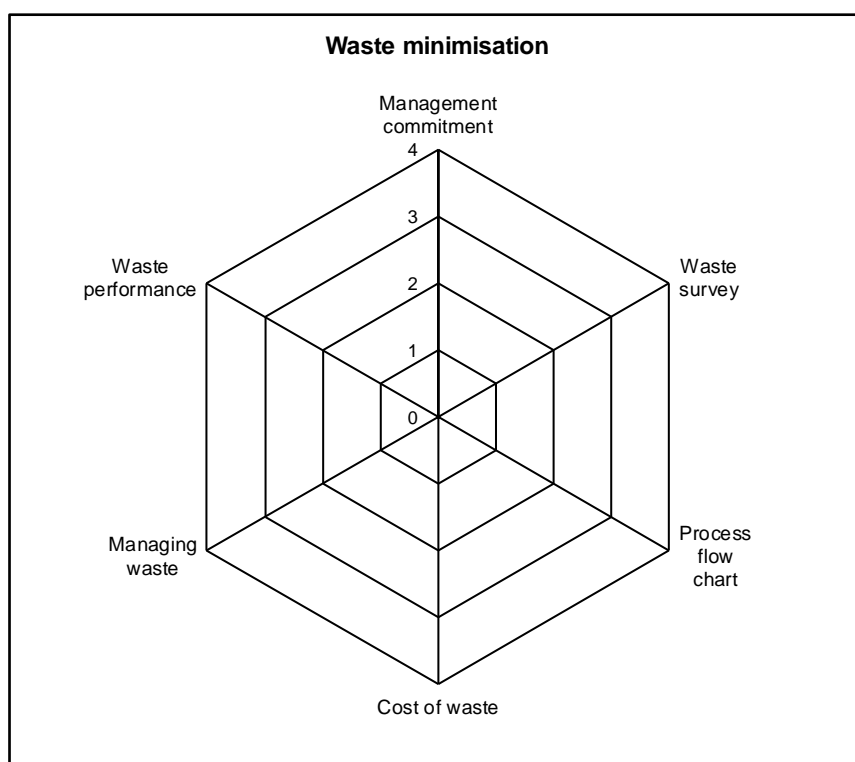
Energy and Sustainability Topics – Site Sustainability Review

	Waste minimisation					**10.1**
Level	**Mgt.**	**Waste survey**	**Process flow chart**	**Cost of waste**	**Managing waste**	**Results**
4	Waste management is seen as important to improving profits & environmental performance. Action taken on all identifiable concerns.	Regular waste surveys carried out to identify new opportunities. Action taken on all opportunities identified.	Full process flow charting for complete site (including office processes) to enable waste targeting. No code words accepted for waste.	Full cost of waste assessed, targets set & monitored for performance.	Full waste management program in place. Program has proven effective in reducing costs.	Waste performance is visibly better than the industry average. Monitoring & targeting used to further improve performance.
3	Waste management is an explicit & stated business goal. Action taken on easily visible concerns.	Initial waste survey carried out. Action taken on all of the opportunities identified but no further survey carried out.	Good process flow diagrams developed for all processes. Processes have few areas that are not considered.	Full cost of waste assessed but no targets set for performance.	Full waste management program in place. Program effectiveness in reducing costs is not yet proven.	Waste performance is slightly better than the industry average. Monitoring & targeting being introduced to improve performance.
2	Waste management is not an explicit goal. Sporadic action taken when concerns are very visible.	Initial waste survey carried out. Action taken on some of the opportunities identified.	Good process flow diagrams developed for most processes. Processes have some areas that are not considered.	Good knowledge of the cost of waste for most areas.	Partial & largely ineffective waste management program in place.	Waste performance is similar to the industry average. Monitoring & targeting being introduced to improve performance.
1	Waste management is not a goal. Visible & obvious waste is openly tolerated by management. No improvement techniques used.	Initial waste survey carried out. No action taken on opportunities identified.	Outline process flow diagrams developed for some processes. Processes have considerable areas that are not considered.	Vague knowledge of the cost of waste. Knowledge is primarily in the cost of disposal.	No waste management program in place but planned for implementation.	Waste performance is slightly worse than the industry average. No monitoring & targeting used.
0	Waste management not considered by management. Getting the product out the door is the only goal.	No waste survey carried out.	No process flow diagram produced.	No concept of the cost of waste to the company.	No waste management program in place & no plans for action in the future.	Waste performance is visibly worse than the industry average. No monitoring & targeting used. High use of 'code words' for waste.
Score						

Energy and Sustainability Topics – Site Sustainability Review

Part 11: Use and end-of-life

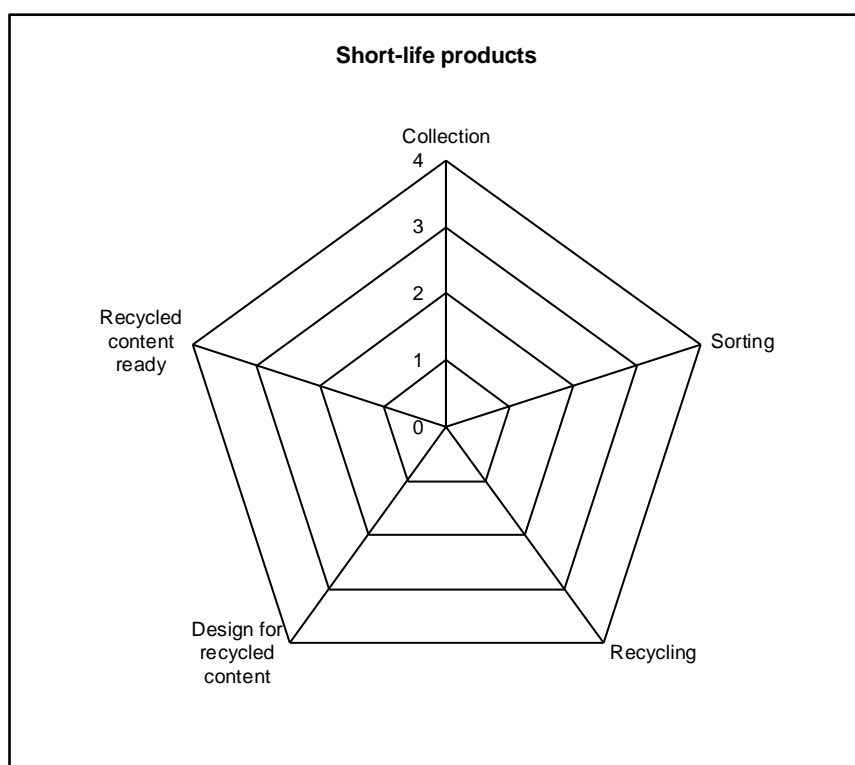### 1.   Short-life products

The last chance saloon

Short-life products provide undoubted functional value and can reduce carbon emissions, particularly when they increase the usable life of foods. This functional benefit is not captured by the current calculation methods. Even using the current calculations, short-life products are not only essential but are also often the best environmental solution. When designed correctly short-life products can be easily captured in the MSW recycling stream and be recycled multiple times to add value and functional benefits over many life-cycles.

Despite this, short-life products are under attack throughout the world because they are not seen as the valuable resource that they are and issues such as littering make them a very visible target.

The industry has a limited window of time to start to move the discussion on short-life products. It needs to ensure that these products are captured in the MSW stream and that their full value is realised.

Note: If you do not make short-life products then do not fill this chart

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Short-life products				11.1
Level	**Collection**	**Sorting**	**Recycling**	**Design for recycled content**	**Recycled content ready**
4	Full review of all products carried out to make collection in the MSW stream easy. No small items present.	Full review of product range carried out to make MSW sorting easy. Products use mono-materials that are commonly recycled & are clearly marked.	Additives adhesives & inks removed/replaced to improve recycling potential. Labels meet design requirements for size & removal. Easy to recycle.	All current designs reviewed for recycled content potential & changes made. Design process for new designs includes requirement for recycled content	All new & existing products & processes checked & revised to make suitable for recycled content use. Ready for recycled content.
3	Full review of all products carried out to make collection in the MSW stream easy. All small items trapped/tethered to allow easy collection.	Most products reviewed for ease of sorting in MSW stream. Products use mono-materials that are commonly recycled & are clearly marked.	Additives adhesives & inks reduced to a minimum to improve recycling potential. Labels meet design requirements for size & removal. Easy to recycle.	Some current designs reviewed for recycled content potential & changes made. Design process for new designs includes requirement for recycled content.	Majority of new & existing products & processes checked & revised to make suitable for recycled content use. Well prepared for recycled content.
2	Majority of products reviewed to make collection in the MSW stream easy. Most small items trapped/tethered to allow easy collection.	Limited review of products for ease of sorting in MSW stream. Products use compatible material mixtures to allow for easy recycling & are clearly marked.	Additives adhesives & inks reduced but still considerable. Very limited number of small labels used. Some products difficult to recycle & may be sent to landfill.	Some current designs reviewed for recycled content potential, changes still to be made. Design process for new designs does not include requirement for recycled content.	Limited consideration of recycled content in processes. No consideration of recycled content in products.
1	Some products reviewed to make collection in the MSW stream easy. Some small items trapped/tethered to allow easy collection.	Limited review of product range carried out to make MSW sorting easy. Products use compatible material mixtures to allow for easy recycling but not clearly marked.	Number of additives adhesives & inks not considered. Limited number of labels used. Products difficult to recycle & may be sent to landfill.	Very few current designs reviewed for recycled content potential, changes still to be made. No requirement in design process for new designs to include recycled content.	Limited consideration of recycled content in products. No consideration of recycled content in processes.
0	No consideration of product collection in the MSW stream. Product generates many small items that are not likely to be sorted or recycled.	No attempt made to make products compatible with sorting. Products use multiple & incompatible materials that make sorting difficult & landfill likely.	Large number of additives adhesives & inks used. Large labels that are difficult to remove. Almost impossible to recycle & will be sent to landfill.	No consideration of including recycled content in current or future designs.	No consideration of recycled content use in any products or processes. Not recycled content ready.
Score					

Energy and Sustainability Topics – Site Sustainability Review

2.   Medium-life products
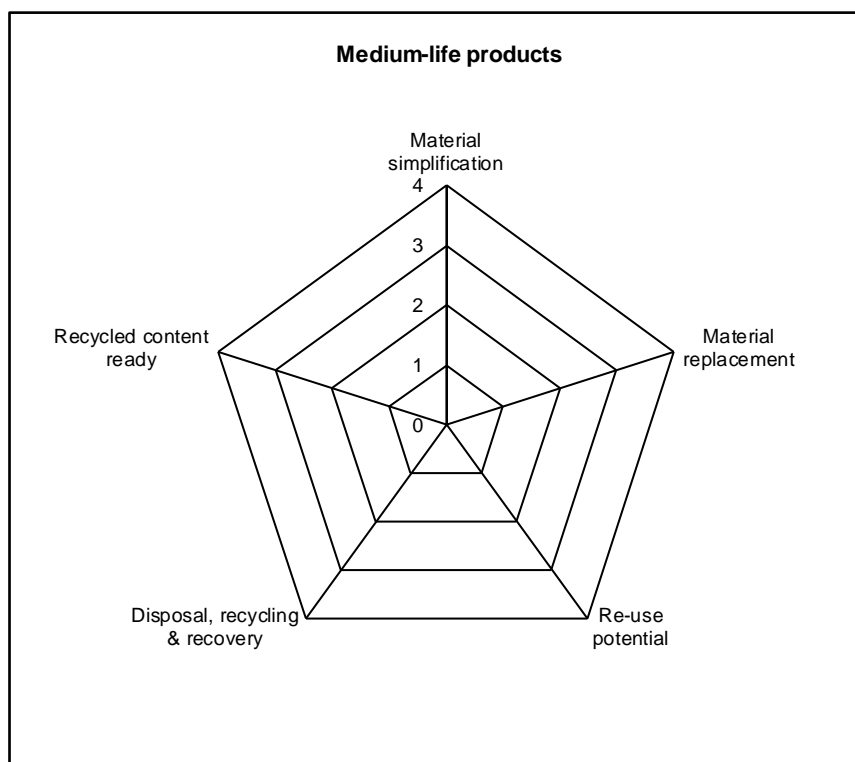
Caught in the middle

Medium-life products typically have the largest environmental impact during the use phase of the product lifecycle, i.e., when they are incorporated into an assembly. In many cases they have huge societal benefits and add greatly to our quality of life.

In no way does this mean that they are exempt from the need to improve sustainability or that their lifecycle impacts cannot be improved. There are significant actions that the industry can take to improve the value of these products to society, to retain their value at the end-of-life and to minimise their environmental impact.

These products are not currently subject to the pressures that are faced by products with a shorter functional life but this can easily change and the industry needs to be prepared for these changes. The high added-value of these products means that it is relatively easy to justify the changes needed to improve their sustainability credentials.

Note: If you do not make medium-life products then do not fill this chart.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Medium-life products				11.2
Level	Simplify materials	Replace materials	Re-use potential	Disposal, recycling & recovery	Recycled content ready
4	Standard materials used in all applications. Fibres, additives & material mixtures not used.	Bio-based materials investigated & used wherever possible & with agreement of customer. Recycled materials already used for many products.	Products are modular & allow component replacement in the event of failure or damage.	All products clearly marked with material type, grade & material designation. Extended marking system used to identify material.	All new & existing products & processes checked & revised to make suitable for recycled content use. Ready for recycled content.
3	Very few non-standard materials used. Fibres, additives & material mixtures reduced but potential to reduce further.	Bio-based materials investigated & used in some products as requested by customer. Recycled materials used in most products.	Products are largely modular & allow most components to be replaced in the event of failure or damage.	Extended marking system used on most products & basic marking system used on remaining products.	Majority of new & existing products & processes checked & revised to make suitable for recycled content use. Well prepared for recycled content.
2	Standard materials used in some applications. Fibres, additives & material mixtures reduced to a minimum.	Bio-based materials investigated but not currently used in any products. Recycled materials used in some (limited) products when required by customer.	Products are partially modular & allow limited components to be replaced in the event of failure or damage.	Basic marking system used on all products to aid recycling. Large number of grades used makes recycling difficult.	Limited consideration of recycled content in processes. No consideration of recycled content in products.
1	Significant number of non-standard materials used. Significant number of products use amounts of fibre, additive & multi-material combinations.	Bio-based materials not investigated or used in any products. Recycled materials not often used & only when required by customer.	Some products are suitable for limited re-use & repair in the event of failure or damage.	Basic marking system used on few products and only when required by customer.	Limited consideration of recycled content in products. No consideration of recycled content in processes.
0	Wide range of materials used, many of which are specialist grades. Most products use large amounts of fibre, additive & multi-material combinations.	No consideration or use of bio-based materials to date. No use of recycled material in any product.	Products are not suitable for re-use & repair. Product is obsolete as a result of failure of any part.	No marking used unless mandatory by customer. Wide range of engineering plastics materials used. Mechanical recycling is extremely unlikely.	No consideration of recycled content use in any products or processes. Not recycled content ready.
Score					

Energy and Sustainability Topics – Site Sustainability Review

3.   Long-life products
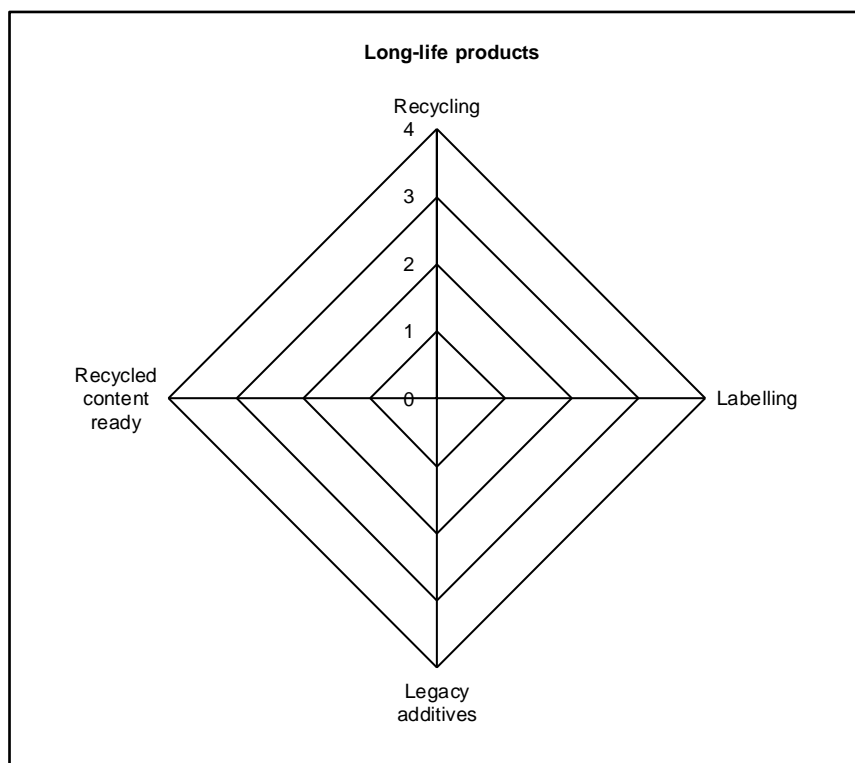
A great advertisement for plastics

Long-life products use the benefits of plastics to great effect. They have a long functional life and deliver huge benefits to society across a wide range of areas and help to deliver the UN SDGs. They are probably the last of the plastics products that will come under pressure for environmental reasons.

This should not lead the industry to be complacent and not attempt to improve its sustainability credentials. It is always possible to improve and the industry needs to prepare now for the future. The long-life products have, potentially, the time to improve but the experience of the PVC-U industry shows that the landscape can change rapidly so that what was acceptable becomes unacceptable and society can remove your licence to operate.

The industry needs to start work now to lay the foundations for a sustainable future where plastics products are seen as fundamental to achieving sustainability in the broadest sense.

Note: If you do not make long-life products then do not fill this chart.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

	Long-life products			11.3
Level	**Recycling**	**Labelling**	**Legacy additives**	**Recycled content ready**
4	Internal re-use of all available & acceptable material. External recycled material used where possible & acceptable. Company is member of industry-led scheme for recycling.	All products clearly marked with material type, grade & material designation. Extended marking system used to identify material.	Excellent knowledge & consideration of potential for legacy additives. Precautionary principle used in relation to additives. Advice sought from suppliers.	All products & processes checked & revised to make suitable for recycled content use. Ready for recycled content.
3	Internal re-use of all available & acceptable material. External recycled material used where possible & acceptable. Company is not a member of industry-led scheme for recycling.	Extended marking system used on most products & basic marking system used on remaining products.	Good knowledge & consideration of potential for legacy additives. Advice sought from suppliers.	Majority of products & processes checked & revised to make suitable for recycled content use. Well prepared for recycled content.
2	Internal re-use of all available & acceptable material. Very limited use of external recycled material.	Basic marking system used on all products to aid recycling. High number of grades used makes recycling difficult.	Poor knowledge of potential for legacy additives. Advice taken from suppliers only when offered.	Limited consideration of recycled content in processes. No consideration of recycled content in products.
1	Internal re-use of all available & acceptable material. No external recycled material used.	Basic marking system used on few products & only when required by customer.	Minimum current legislative conformance. Legacy additives & future legislative issues only considered in relation to business activities.	Limited consideration of recycled content in products. No consideration of recycled content in processes.
0	No consideration of recycling schemes. Virgin material used for all products. No recycled material used	No marking used unless mandatory by customer. High number of material grades used. Mechanical recycling is extremely unlikely.	Minimum current legislative conformance. No consideration of legacy additives or future legislative issues.	No consideration of recycled content use in any products or processes. Not recycled content ready.
Score				

Energy and Sustainability Topics – Site Sustainability Review
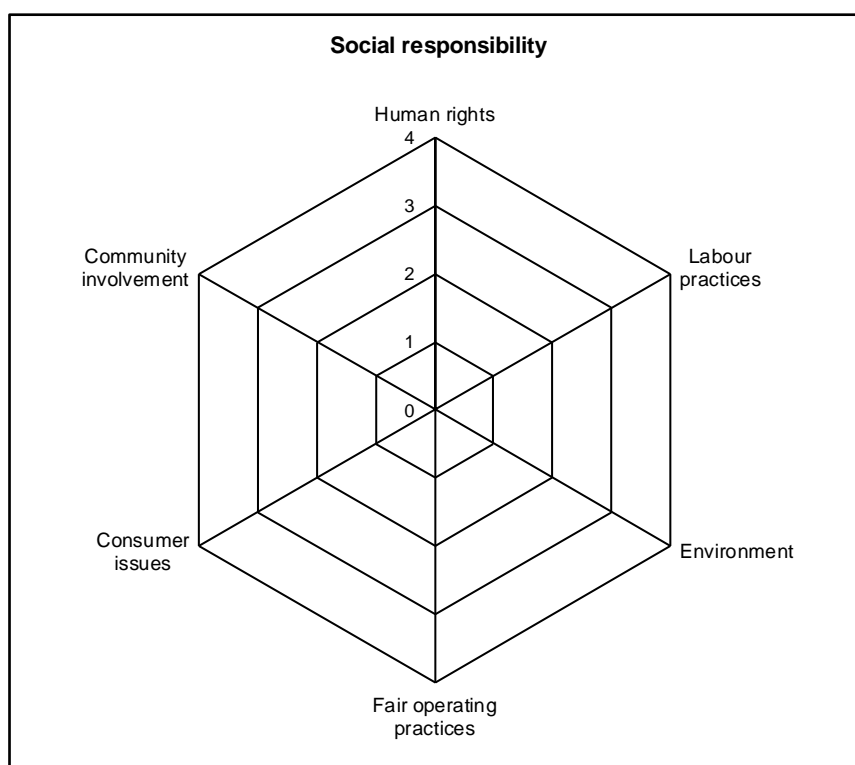
Part 12: Social responsibility

1.   Social responsibility

It is part of the landscape

Social responsibility was often a neglected part of overall sustainability and the focus was on environmental and economic sustainability. The introduction of the UN SDGs and their importance in the drive to improve overall sustainability has now raised the profile and importance of social responsibility.

The subjects in the social responsibility area are not really contentious, in most cases the issues should have already been covered due to local legal requirements or simply due to good practice. For many plastics processors, this is an easy area to excel in because of their restricted operations but it is also an area where they can have a very positive impact both locally and around the world. Not only that, but improved social responsibility can be used to promote products and even to negotiate improved prices.

Scoring

Energy and Sustainability Topics – Site Sustainability Review

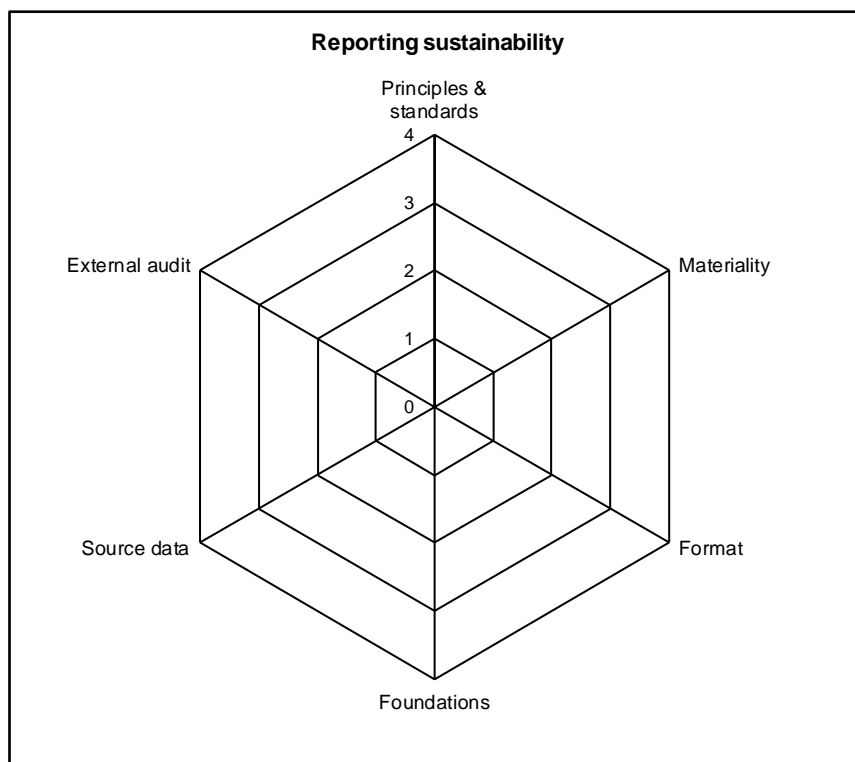| Social responsibility						12.1
Level	**Human rights**	**Labour practices**	**Environment**	**Fair operating practices**	**Consumer issues**	**Community**
4	Clear human rights guidance for all staff. Due diligence carried out for all risks. Performance regularly verified & reported.	Exceeds legal requirements in all areas. Excellent staff relations & an exceptional place to w ork. Training in place for all staff.	Environmental leader. No pollution, good resource use & planning for climate change. Performance verified & reported.	Robust Code of Conduct in place & applied throughout the company. Led from the top w ith respected 'w histle-blow er' programme.	Regarded as an industry model for treatment of consumers. Excellent reputation for ethical treatment of consumers.	Excellent community involvement. Widely seen as an asset to the community. High social investment in community.
3	Clear human rights guidance for all staff. Due diligence carried out for all risks. Performance regularly reported but not verified.	Exceeds legal requirements in most areas. Good staff relations & a good place to w ork. Training in place for most staff.	Good environmental reputation. No pollution & good use of resources. Performance regularly reported but not verified.	Code of Conduct in place & applied throughout the company. No 'w histle-blow er' programme in place.	Good reputation for fair treatment of consumers. Consumers are treated fairly & consistently.	Good community involvement. Seen by some as an asset to the community. Moderate social investment in community.
2	Some guidance on human rights in most areas. Due diligence carried out for some risks. Performance not reported or verified.	Exceeds legal requirements in some areas. Acceptable staff relations & 'simply a job'. Training in place for some staff.	No environmental reputation. Low recorded pollution & average use of resources. Performance not reported or verified.	Code of Conduct in place but inconsistently applied or not applied throughout the company.	No sales direct to consumers, business is B2B only.	Some community involvement but on an ad hoc basis. Little know n in the community & relationship is neutral.
1	Human rights not understood or applied in most of the company. Due diligence not carried out. Performance not reported or verified.	Minimum legislative compliance only. High staff turnover. Little training in place.	Minimum legislative compliance only & some recorded incidents of pollution.	Minimum legislative compliance w ith some potential for breaches of fair operating practices.	Average reputation for treatment of consumers. Few incidents of poor treatment of consumers.	No community involvement & unknow n in the community. Community relationship is neutral.
0	No consideration of human rights.	Failure to meet legislative requirements in significant areas, including health & safety.	Poor environmental practices & significant pollution incidents recorded.	Poor legislative compliance & high potential for corruption or other breaches of fair operating practices.	Know n for poor treatment of consumers. Poor reputation & only used for low prices. Multiple incidents of poor treatment of consumers.	Negative community involvement & very poor relations w ith community.
Score						

Part 13: Reporting

1.   Reporting

Tell the world

Reporting sustainability is an opportunity to tell the world what you are doing in the sustainability area. This can add value to the company by improving relationships with a variety of stakeholders ranging from internal staff to investors and NGOs. Reporting is not an option for many companies, it is covered by legal requirements, but companies simply meeting the minimum legal requirements are missing the benefits of good sustainability reporting – there are many other benefits to high-quality reporting.

However, reporting should never be an exercise in greenwashing, reports should meet agreed principles and standards and cover the topics that are material to the operations of the company. Reporting is not something that is done once, it should become part of the overall reporting schedule for a company, in the same way that financial data is reported, this means setting up systems to collect the data automatically and effectively.

Scoring

Reporting sustainability

Energy and Sustainability Topics – Site Sustainability Review

	Reporting					13.1
Level	Principles & standards	Materiality	Format	Content	Source data	External audit
4	Report meets all principles & standards. Covers all material impacts, encourages improvement & acknowledges failures.	Materiality study with all stakeholders. Impacts identified & reported. Risk analysis & SWOT used to create action plan.	Available in all formats. Significant narrative & numerical disclosures. GRI index linked to SDGs & UNGC.	Report is 'in accordance with the GRI standards' & uses 'comprehensive' option.	All source data for material topics identified, validated & formatted for easy access. Data collection for report is automatic.	Full external audit to ISAE 3000 or AA1000AS carried out, reported & publicly available.
3	Report meets most principles & standards. Report covers all material impacts but does not encourage improvement.	Materiality study with all stakeholders. Impacts identified & reported.	Available in some formats. Good narrative & some numerical disclosures. GRI index with no links to SDGs or UNGC.	Report is 'in accordance with the GRI standards' & uses 'core' option.	Source data for material topics are fragmented but most data are validated. Some manual data collection necessary for report production.	Full external audit to ISAE 3000 or AA1000AS carried out & reported but not publicly available.
2	Report meets some principles & standards. Report covers most material impacts & does not encourage improvement.	Materiality study with internal stakeholders only. Impacts identified & reported.	Available in some formats. Mainly narrative reporting & some numerical disclosures. No index of GRI disclosures.	Report uses 'GRI-referenced' claim for some specific topics. Meets GRI context & quality requirements.	Source data for material topics are fragmented but some data are validated. All data must be collected manually for report production.	Internal audit carried & audit report publicly available.
1	Report does not meet all principles & standards. Report covers few material impacts & does not encourage improvement.	Materiality study with internal stakeholders only. No report available or reporting is poor.	Available only in pdf (on web) format. Narrative reporting only with few numerical disclosures.	Report meets legally required disclosures.	Source data for material topics are fragmented & unvalidated. All data must be collected manually for report production.	Internal audit carried out but no report available.
0	Report is vague & aspirational rather than credible & does not focus on material topics. Primarily 'greenwashing' rather than reporting.	No materiality study carried out.	Format does not meet any established standard.	Report does not comply with any recognised disclosure reporting structure.	No validated source data easily available.	No external or internal audit carried out.
Score						