Whitepaper

Knowledge is Power

A guide to improve Enterprise Sustainability Performance with benchmarks, best practices & impact profiles

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PE INTERNATIONAL AG | March 2012

PE INTERNATIONAL
EXPERTS IN SUSTAINABILITY

Contents

A guide on how to use sustainability content such as best practice libraries, performance benchmarks and impact profiles to achieve improved Enterprise Sustainability Performance.

Knowledge is Power

Never before have we seen environmental consciousness, social responsibility and sound economic health being discussed at the same table in the boardrooms of successful global companies. Driven by customers, investors and employees, companies today are challenged to consider people and the planet in addition to profit in decision-making. If knowledge is power, as the saying goes, then the amount of information required for operating a sustainable business has grown exponentially.

Sustainability information spans operations, buildings, products and supply chains and resides in many shapes and forms inside the organization and across its value chain. Once captured, this information empowers enterprises to improve the use of raw material, energy and resources and to reduce carbon emissions and waste. Think of it as managing "Enterprise Sustainability Performance (ESP)" a way to create savings, reduce risk and build a key competitive differentiator for organizations that are successful at it.

One of the biggest challenges is collecting information, filling the gaps and turning it into insights that drive the management of ESP. An efficient process or solution to capture and analyse the information is at the heart of managing ESP.

Additional sustainability content from external sources can be a powerful tool for understanding a company's current performance relative to peers or for screening for risks and opportunities across operations and the supply chain.

There are many third-party sources for sustainability content such as voluntary reporting platforms, like the Carbon Disclosure Project, industry associations and standardization bodies as well as proprietary databases. There is also a wealth of sustainability disclosure information published by big and small organizations in all industry sectors that provides sustainability reference data.

This whitepaper reviews three types of sustainability content that can be developed from these sources: impact profiles, performance benchmarks and best practice libraries. We are looking at the rules and pitfalls in leveraging sustainability content for managing ESP.

Key Findings

› Impact profiles allow you to compare alternatives based on your sustainability goals

Impact profiles can be used to identify the environmentally preferred option out of several alternatives by using impact categorizations such as Global Warming Potential, Resource Depletion and Energy Use. Social and economic impacts can also be included in the evaluation depending on the goals of the evaluation. Impact profile databases that follow standards and international methodologies are used in sustainability performance management to inform decision-making in company operations and detect potential upstream supply chain risk such as threats to the cost of resources and energy.

› Benchmarking sustainability performance against peers' helps you find performance gaps

Benchmarking requires appropriate indicators and normalization methodologies and needs consistent boundary conditions to be useful. There are several third-party sources for sustainability benchmarks for products, buildings and corporate performance but for now, organizations should always refer to data from their own industry sector. External benchmarking is a fast and powerful way to identify potential performance gaps.

› Sustainability best practice libraries can help reduce costs and speed up the process of finding the most viable projects and initiatives

Smart best practice libraries make tailored suggestions based on industry sector, location, size of an organization and offer indicators such as estimated project cost and potential savings. These indicators are based on the experience of peers and allow a pre-qualification and enhanced planning for sustainability performance management.

Comparing Apples and Oranges: Sustainability Impact Profiles

Let us begin with an example: Electricity and natural gas are both energy carriers that are used for heating in several industrial processes and buildings. Suppose you want to compare the two and find out which one is the environmentally preferred alternative for your heating process. You will quickly realize that this evaluation is difficult because the energy that went into the production of these carriers and the associated environmental impacts from their use are not comparable. Further, you will find that there are different sources for the two energy carriers and their efficiencies with which they are converted into usable heat vary greatly. How could you then proceed with your evaluation?

It is possible to pick one single environmental impact that they have in common. The most popular and well-known environmental impact categorization is the Global Warming Potential (GWP), a relative measure of how much heat a greenhouse gas traps in the atmosphere.

Using GWP as a yardstick, you can also determine the relevance of your heating process in the context of all other operations that lead to the total GWP of your organization. This allows you to focus your efforts on the most relevant (largest) sources of GWP.

In the case of our example, you can determine how a single kWh of natural gas and a single kWh of electricity is produced, from extracting the resources from the ground until it is used in your heating process. Extraction of raw materials, production and use are all part of the life cycle of our energy carriers. You can then carefully add up the GWP impacts from all the intermediate processes and arrive at what we term the impact profiles for natural gas and electricity use.

In addition to the GWP impact profile, there are several other robust impact categorizations to evaluate environmental preferred options including resource depletion, primary energy consumption and the like. Should you want to consider all three dimensions of sustainability you can even extend the evaluation to social and economic impacts arising from your operations and supply chain.

Impact Profile Databases

Instead of calculating impact profiles on your own you can refer to several sustainability databases that are available today. However, if you want to apply this kind of information in the ESP decision-making process you need to ensure that your information is highly accurate and reliable and the database provider uses standardized, proven methodologies for calculations.
To this effect, comprehensive ISO standards (ISO 14042 – ISO 14044) have been developed for guidance.

Benefits of Impact Profiles

Impact profiles offer valuable insights into company operations and products. You can apply them to manage ESP in sourcing and production by providing information regarding the impacts of raw materials and energy or waste from manufacturing. Or you can take a closer look at how to optimize the way that your customers are using your products and dispose them.

Finally, impact profiles offer greater visibility into supply chain risks because they expose potential threats to the cost of assets, resources and energy all the way though the upstream supply chain. This aspect of supply chain risk is one of the hot topics in ESP. A recent study by PWC on minerals and metals scarcity in manufacturing points out that the financial risk in an organization's supply chain strongly correlates with the political and business environment facing the firms operating in the same country. For this purpose, some impact profile databases also include geopolitical risk indices that can be used to quantify risk exposure in the supply chain.

Fresh or not? – Enterprise Sustainability Performance Benchmarks

Getting back to our initial problem of evaluating heating alternatives, let us say you are using a certain furnace technology. In this case, it would be helpful to know the average impact profile of your furnace technology for the same application. Such an average could also be created from different technology mixes for the same application as yours. The average becomes a benchmark and not only enables a validation of your calculations, but also an indication of how well your furnace is performing.

Benchmarking has a number of important prerequisites for it to be meaningful and useful. The most important of these are:

1 The use of appropriate indicators and methodologies to normalize data – putting it into context – such that all benchmarks are truly comparable. There is no generic approach here and there is a huge variety of methodologies depending on what is being benchmarked and what the purpose of the benchmarking exercise is.

2 Ensure that the same boundary conditions for all benchmarks are chosen so that they are all representing the same set of processes.

Internal benchmarking of operations, at different locations for example, is widely used and represents a good start to evaluate performance.

However, the holy grail of benchmarking is comparing the performance of your own organization to your peers' and competitors' performance. Unfortunately, the practicalities of business make it very difficult to obtain the information required for external benchmarking.

With ESP, we still lack sufficient standardization and unambiguous rules for the public reporting of relevant sustainability performance indicators. Additionally, it is next to impossible to find universally applicable normalization methodologies, for example to benchmark sustainability performance across different industry sectors. Nevertheless, there is a wealth of benchmark information available. Here are some examples:

› On the product side, there have been several attempts to enable the benchmarking of different marketed products through the concept of Environmental Product Declarations (EPD). EPDs contain key environmental performance indicators for a product and have become a product marketing tool mainly in the construction industry. Indirectly, an EPD also provides a benchmark for the respective organization's manufacturing processes, raw materials used in the product and efficiency of the product itself.

› Several broadly accepted methodologies exist for benchmarking building energy efficiency and good primary data on building energy use has become available through several national and international building efficiency programs like EnergyStar, DGNB, US Green Building Council, giving clear insights into where potential savings can be achieved.

› Corporate sustainability-reporting platforms like the Carbon Disclosure Project and the Global Reporting Initiative have made headway in standardizing reporting rules for sustainability performance indicators of entire corporations. More than 3,000 companies provided information to the Carbon Disclosure Project in 2011, including 81 % of the Global 500.

› Several industry associations such as the World Steel Association have developed their own aggregated benchmarks (and methodologies) for various operations occurring within relevant manufacturing process chains. These are usually the crown jewels for benchmarking as they are tailor-made for specific industries and allow for the most reliable insights into process efficiencies. Generally speaking, even though a sector-un-specific approach could offer immense value because different sectors can have similar operations and supply chains, a sector-specific benchmarking approach is the most prevalent and recommended in ESP today.

It ensures that you are benchmarking yourself against companies with similar energy-intensity, resource-use-patterns and operational processes.

Benchmarking Platforms and Databases

High-quality benchmarking databases need to incorporate the two most important pre-requisites of benchmarking mentioned above: provide a large amount of well-documented source data that is specific to your sector, so you can define the appropriate indicators and boundary conditions. The flexibility of using several standard bench-marking methodologies is also a key aspect of these types of solutions.

Benefits of Benchmarking

Some people may be hesitant to benchmark per-formance against data from external third party sources due to a lack of data confidence. However, for internal use in performance assessment, benchmarking is one of the most powerful tools to gain a quick overview of how the ESP of your own organization stacks up. Benchmarking is also a widely used screening tool for potential per-formance gaps. If you want to quickly find out where the biggest performance improvements in your organizations can be made – start by looking at how well others are doing the same thing.

Cherry Picking: Sustainability Best Practice Libraries

Once you have identified performance gaps and improvement opportunities, how do you find the best way to bridge these gaps and capitalize on your opportunities? Going back to our furnace example, let us say you found that your furnace's efficiency is below average and you decided to close this performance gap. You have several options: You could optimize the furnace operation; replace the old system or retrofit parts of the system to improve performance. However, developing the correct recommendations for improvement requires in-depth knowledge of the system, its current performance level, alternative technologies, their performance levels and costs as well as possible interdependencies with other systems or processes. Here are techniques that companies use to typically address these issues:

Domain Expert Services

Traditionally, domain experts offer in-person audit services to assess systems, buildings and processes and provide recommendations. Of course, this is the most expensive and time-consuming approach.

Technology Catalogues

Some catalogues list rated performance levels, e.g. energy use, of the existing system and possible alternatives. With this information you can calculate potential savings. But be aware that there is often a big difference between theoretical performance ratings and actual savings that you can achieve in your operations.

Additionally, you will rarely find all the information required to make an informed decision and may need to involve an expert after all.

Best Practice Libraries

Learning from the experiences of peers can help reduce costs and speed up the process of finding opportunities to improve your ESP. Best practice libraries list improvement projects that have been implemented by other organizations that faced similar performance challenges. The real value, however, comes with documented performance indicators such project investment cost, project duration and return on Investment. If you then group similar projects you can quickly see which measures were, on average, more successful than others and how much savings they achieved.

Benefits of Best Practice Libraries

Of course, best practice libraries allow you to learn from your peers. But smart best practice libraries even make tailored suggestions for your industry sector, location, size and for the specific performance gap that you want to address. Validated project indicators enable a pre-qualification of your opportunities based on proven and quantifiable savings allowing you to focus on the most viable opportunities in practice. So you can then develop a detailed plan for performance improvement with a view on indicative cost estimates and potential savings.

Recommendations

› Explore the best way for your organization to leverage sustainability content in Enterprise Sustainability Performance management.

Depending on the availability of sustainability content in your sector and the maturity of your organization in ESP management, you will find that certain types of content are more relevant for you. Industry benchmarks and smart best practice content tend to be valuable for any organization as long as the information provided is relevant for their sector, size and location. Impact profiles may require a more advanced analysis but nevertheless can return greater insights for innovation and risk management.

› Integrate content in the complete Enterprise Sustainability Performance management cycle.

Sustainability content can enhance every step of ESP management; starting with understanding your current status, then identifying performance gaps and lastly, identifying the most profitable sustainability initiatives and building your improvement plan. When you go through this cycle refer to impact profiles and performance benchmarks to analyse your ESP and identify performance gaps and then apply best practice libraries to build a plan with remedial and improvement actions.

› Knowledge is power but quality matters.

For all three types of sustainability content – impact profiles, performance benchmarks and best practice libraries – you need to ensure that your information is highly accurate and reliable. If you are using third-party content, the database provider should follow standards and proven methodologies and the information should be well-documented. Finally, content solutions should provide you with the flexibility and smart interfaces to select and analyse the content which is most relevant for your organization and its challenges. The more specific the content, the more value you will get out of it for improving your company's ESP.

About PE INTERNATIONAL

PE INTERNATIONAL is one of the world's most experienced sustainability software, content and strategic consulting firms. With 20 years of experience and 20 offices around the globe, PE INTERNATIONAL allows clients to understand sustainability, improve their performance and succeed in the marketplace. Through market leading software solutions, Five Winds Strategic Consulting Services and implementation methodologies PE INTERNATIONAL has worked with some of the world's most respected firms to develop the strategies, management systems, tools and processes needed to achieve leadership in sustainability.

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