

Carbon Reduction can also mean Cost Reduction

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Most organisations think that going green is expensive. The opposite can be the case, and a recent survey has shown that 94% of executives believe that a strong corporate responsibility strategy, coupled with optimised operational management, delivers real commercial benefits.

2010 is the baseline year for the UK's CRC Energy Efficiency Scheme (formerly The Carbon Reduction Commitment). Approximately 20,000 UK organisations will be participating in the CRC EES, of which 5,000 will have to participate fully. This scheme covers organisations from Water Companies to Supermarkets and requires strong measurement and management of carbon consumption to meet the targets set.

But what benefits does this bring to an organisation? The challenges for the organisations that are obliged to sign up to the CRC EES were clearly outlined in a recent article in Utility Weekly - insufficient access to good quality information for management teams and financial constraints, which limit companies in the action they take.

2010 is the baseline year when the organisations will have to measure their carbon consumption. It could however be argued that identifying an organisation's carbon footprint is the easiest and only the first step to managing carbon responsibly. The challenge for organisations over the past few years has been to measure & analyse, and identify executable actions from these analyses. During this time, efforts have been directed at replacing old, energy-inefficient processes with new ones that are deemed more environmentally friendly. But at what cost? Were these investments in vain and more importantly, are organisations realising the full ROI from their capital expenditure?

All operational activities impact an organisation's carbon consumption, whether it's pumping clean water through a pipe network or moving a fleet of vans around a region. Optimal management of operational activities is therefore critical to both understanding and reducing carbon consumption. Getting it right will result in:

- Reduced Carbon footprint (and consequent progress against carbon corporate goals)
- Reduced OpEx costs
- Identification of assets (type and age) that should be replaced through capital investment
- Improved monitoring and compliance against national / international legislation
- Enhanced customer satisfaction and shareholder return

Being shrewd about where to make operational changes and where to invest capital is key, not only to achieving carbon targets but also to making financial gains. In collaboration with our clients, Trinity Horne has not just reduced the client's carbon footprint but realised substantial cost reductions at the same time. More recently, working alongside a leading utility company, Trinity Horne determined through the application of advanced analytics where and which assets to optimise. This identified not just substantial carbon reductions but dramatic cost reductions to boot.

A three phase approach was adopted;

- *Applied Analytics* (using the most *appropriate* methods from a broad and deep toolset)
- Short Interval Measurement
- Behavioural Change (organisation alignment)

There are immense challenges in capturing and analysing carbon data and information. What are the key drivers that affect carbon consumption? How does an organisation go about reducing these and managing the carbon consumption in the future? The amount of data and information produced by an organisation is vast. Understanding the key drivers that affect a carbon footprint, from products and services across the end to end process, can be both vital and complex. What drives a particular part of a process to utilise more carbon under different conditions?

Take a utility network as an example. It is the core operational infrastructure through which customers receive a product – water, gas, electricity or telecommunications. The network is at the heart of every utilities company. It consumes a large proportion of the organisation’s focus and resources – through management, provisioning, maintenance, repair, replacement and upgrading. In addition, its performance – as measured through the fault rate, service quality, operating cost, reliability, complaints, scalability, and flexibility – has a substantial, direct impact on the organisation’s carbon footprint and profitability. In recognition of its importance, companies populate their network operations with highly qualified and experienced experts, and implement specialised data collection and reporting systems. As these controls develop over time and through various initiatives, they tend to generate vast quantities of data – but its richness is rarely exploited effectively.

In conjunction with our clients, Trinity Horne has developed a unique analytical approach to examining raw operational data with the purpose of drawing executable improvement conclusions from it. At its heart is a powerful suite of analytical and modeling tools complemented by in-house content expertise, real world process disciplines and pragmatism.

An appropriate level of analytics to justify expenditure is a requisite building block in any budgetary and carbon reduction process. Traditionally, analytics are applied to large, well-structured datasets to uncover important relationships. Limiting the data sources in this way makes for easier analysis – but excluding the many poorly-formatted data islands across the network also excludes the possibility of a much richer and more insightful analysis.

Applied Analytics can exploit the full richness of the collected data and expertise. Three key resource types are required – operational SMEs, statistical analysts and a myriad of relevant and timely data sources. Each needs to be marshaled to create a multidimensional dataset that is, necessarily, incomplete and imperfect – but can provide a much broader, deeper and richer view than any prior representation of operational activities. This enables a quantitative exposition of the key operational relationships i.e. which inputs (deliberate or otherwise) really impact carbon consumption. The use of a broad, deep, multidimensional dataset ensures that the findings are much more reliable than could ever be drawn from traditional analysis of a few well-structured datasets.

This approach is ideal when answering questions such as:

- What operational activities really drive carbon consumption? How should these attributes be managed?
- What measures are the best indicators of a company's carbon footprint? Can these measures be exploited to give a more realistic view of carbon consumption?
- What carbon-intensive operational processes should be targeted as part of the investment programme?
- What are the true impacts of undertaking operational changes on a company's carbon consumption?

With the analytics phase complete and an executable carbon reduction action plan in place, what information now needs to be measured to enable an organisation to track, understand and truly manage its carbon consumption? As the Utilities Weekly article reminded us, you can't manage what you don't measure. A direct result of the analytics phase will be to identify the operational activities that need to be measured. Gone are the days of capturing data for the sake of filling up servers. There needs to be a rational understanding between capturing the data and its relationship to the KPIs it supports.

It is important to develop bespoke short interval environmental KPIs to ensure that actions are executed to influence the organisation's carbon reduction objectives. These KPIs need to be embedded throughout an organisation, from the bottom up. Done correctly, they will be invaluable for operational managers at every level within the organisation in identifying the processes that need optimising. Medium to long term trends within carbon utilisation should be used by an organisation's strategic planners – enabling the development of a *carbon whole life cost* approach to operational management.

In addition, getting the balance right between OpEx and CapEx spend is crucial for an organisation to survive. Organisations that react quickly to the information that is provided through fit for purpose KPIs are more likely to improve than those that don't. As informed consumers we are more likely to recommend to a friend an organisation that promotes carbon sustainability. It is therefore clear that analysing, measuring and managing carbon will have a positive effect on a company's bottom line – not just through cost reduction but through top line growth. Better investment decisions will result in reduced carbon consumption; reduced capital investment requirements and will significantly cut operating spend through reduced operational over-management and truck rolls. Poor operational management is unforgiving. It cannot be viewed as an isolated activity and each of its interdependent components must be analysed, weighed and measured.

So how does an organisation ensure that the executable actions deriving from their carbon KPIs are resourced and implemented in a timely manner? Analysis and measurement is all very well but unless the culture of the organisation is transformed then the benefits realised will be short lived and limited. Fundamental Behavioral Change at the coalface of an organisation is essential. Frontline operatives and their managers need to be informed, equipped and engaged – to ensure that the executable actions derived from the Apt Analytics and Short Interval Measurement phases are fully implemented and the full carbon reduction and financial benefits are realised.

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The challenges in managing carbon consumption are immense. It can be a constant balancing act between cost and operational performance. Operational activities can have 'a butterfly effect' – a small change in one part of the process could lead to a substantial increase in carbon consumption in other parts of the process. Applied Analytics can take the guess work out of carbon management and enable a more dynamic and balanced approach. When coupled with Short Interval Measurement and a Behavioural Change programme, an organisation can not only reduce its carbon consumption through better operational practices, but also achieve significant costs savings and improved customer satisfaction.

Want to know more?

The Carbon Reduction Methodology described here can be applied to many different organisations. For further information on its potential application and benefits for your business, please contact Trinity Horne on +44 870 3665800 or on email at info@trinityhorne.com