



Consumer Business Breakfast - Nairobi

The Sustainable Supply Chain – Unlocking the Value by Going Green

Clinton Houston
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Supply Chain Transformation – a Perspective

Many companies have made their supply chains the focus of an unprecedented amount of attention in recent years. They have been picking apart the supply chain piece by piece, looking for new ways to get more from less in an area that represents one of the biggest costs in their organizations. And their efforts have paid off. Outsourcing, 3PLs, contract manufacturing, offshore suppliers, low-cost country sourcing – approaches using elements like these have allowed many companies to squeeze more value from their supply chains than they ever thought possible.

Now, many leaders are wondering what's next. They've combed through every link in their supply chains, one by one, to make sure they're as efficient as possible. And they've mastered the art of getting

“the right product to the right place at the right time.”

But these days, who cares? Everyone should be able to do that.

The real challenge is to use the supply chain as a competitive weapon rather than high-functioning plumbing. Because as customers look for new ways to differentiate themselves, their expectations are growing more diverse – and companies that can configure their supply chain capabilities to meet these changing needs are the ones who will win. And that takes more than an “a la carte” approach to the supply chain.

It takes ***transformation.***



Supply Chain Transformation – a Perspective

What do customers want?

While low prices will always be part of the equation, today that's just the first item on their wish lists.

Typically our customers are looking for:

- **allies in innovation, able to use their supply chains to deliver new products and services and drive breakout sales,**
- **taking costs out of their end-to-end supply chain, requiring innovative tactics such as smaller, more frequent deliveries,**
- and some want all of the above.

All against the backdrop of an increasingly complex risk environment that must be managed in order to deliver a **secure supply**.

For companies that are working with a highly fragmented supply chain –comprised of 3PLs, suppliers scattered all over the world, contract manufacturers, and the remnants of years of mergers and acquisitions, to name a few – meeting these new customer demands can seem well out of reach.



Sustainability trends and business opportunities

Traditional business approaches are becoming rapidly out-dated; **The Old Paradigm**– abundant raw materials, cheap energy and limitless sink for waste; **New Paradigm**– climate change, consumer awareness, environmental and social performance matters **Sustainability is no longer an add on- but rather a way of doing business**

Trends

Resources



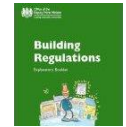
- Energy costs are increasing
- Carbon is being taxed
- Resources are becoming more scarce

Climate Change



- Climate risk impacting asset values
- Potential design on-costs
- Supply chain risks

Regulation



- Increasing regulations around carbon and energy
- Zero carbon development by 2016 and 2019

Global Change



- Talent attraction in a global marketplace
- Role of business in building a better global society

Consumer Behaviour



- Consumer increasingly choosing green
- Rise of ethical brands
- Increasing demand for transparency

Business opportunities

Growth



- New and better market penetration
- Brand enhancement
- Innovation and new product development
- Value-chain partnerships
- Consumer loyalty
- Asset value
- Staff productivity and wellbeing

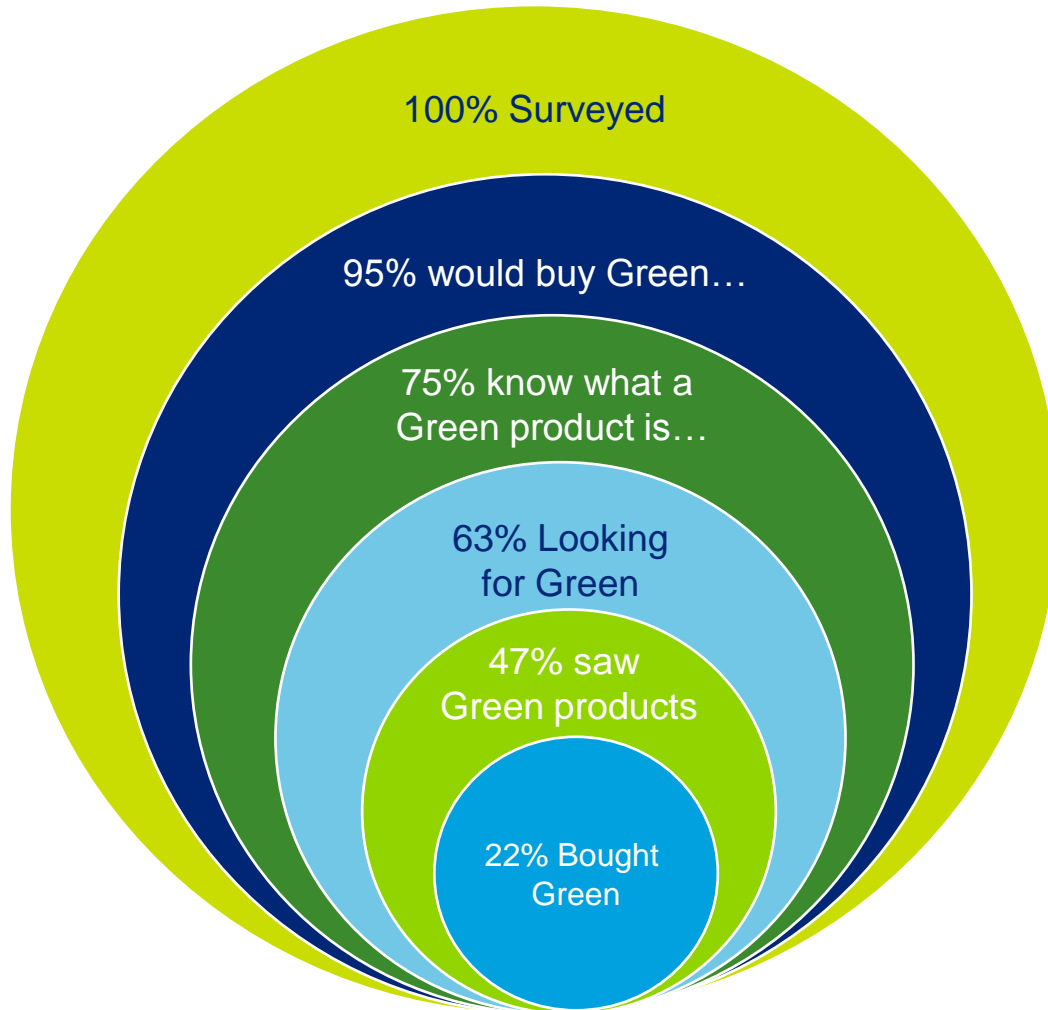
Costs



- Reduced material costs
- Reduced operational costs
- Improved construction efficiency
- Reduced staff non-productivity
- Reduced planning costs
- Reduced risk

Consumer Expectations

There is a large, latent market for green products and services, which many Consumer Packaged Goods Companies and Retailers are keen to exploit....



Growth



- 60% of Consumers rated environmental impact as more important than a product's brand name*
- 63% of consumers are more likely to buy a product if they know action is being taken to reduce its carbon footprint*
- 22% of consumers will actively spend more to buy green*
- Green consumers are 29% more loyal and spend more than other consumers.*

A Resource-Focussed Supply Chain

Costs



Reducing costs to release cash to the business is an on-going pursuit of organisations regardless of competitive or macro-economic conditions. While many organisations have traditionally focused on their internal operations for cost reduction initiatives, this alone may not address one of the most significant savings opportunities for an organisation—its upstream and downstream supply chain. Many organisations have long recognized cost benefits can be realized by asking suppliers to reduce the cost of their operations. Leading organisations, however, are going even further in the pursuit of untapped savings by re-looking at their supply chain and focusing on reducing use and production of five metrics that are ubiquitous within it — **energy, carbon, water, materials** and **waste**.

Is your company leaving money on the table?

Why energy, carbon, water, materials and waste?

A primary reason for looking at these five resource metrics is simple. They are ubiquitous throughout the entire supply chain, and they are, therefore, an excellent proxy for operational efficiency:

- Energy is expensive;
- carbon, in the form of emissions, represents profits gone up in smoke;
- water and materials are becoming expensive due to scarcity and commodity inflation;
- Waste material is wasted profit.

Projects that reduce **energy**, **carbon**, **water**, **materials** and **waste** represent some of the easiest ways to remove significant cost and not just something to look at when examining environmental sustainability.

These organizations realize if their supply chain uses too much energy, or if it uses too much water or materials, or if it produces too much carbon or waste, then they are spending too much money.

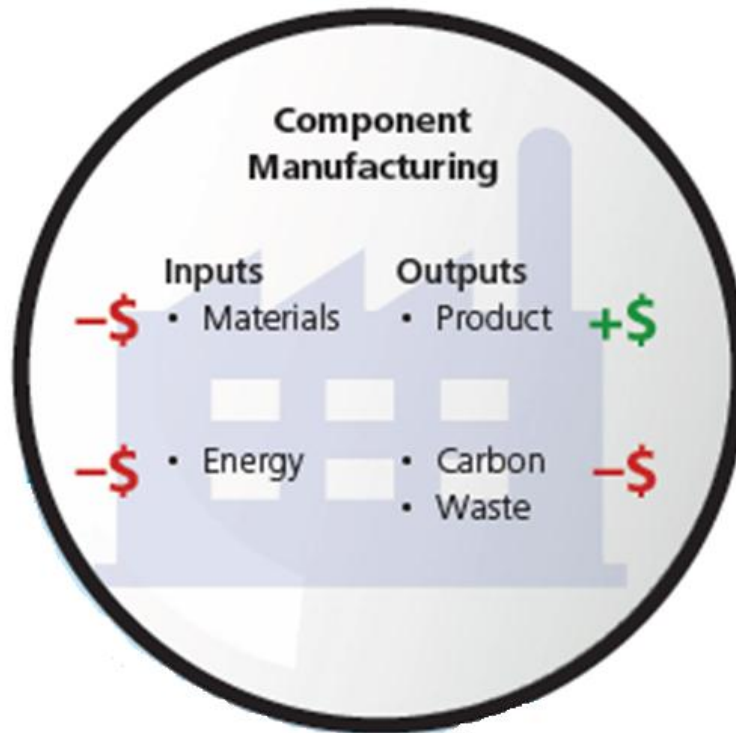
And that extra expense is being passed on to their product cost.



Supply chain inputs and outputs

What exactly does a resource-focused approach mean in the context of a supply chain?

There are two inputs that go into the supply chain process of every upstream supplier—materials and energy, and there are two things that come out—one is product and one is non-product. Three of these streams cost the supplier money and only one makes the supplier money. This is the case up and down the supply chain, whether you look at raw materials at the beginning of the supply chain or go all the way through to end of life beyond the retail side of the supply chain. Companies along the supply chain might use different materials, different amounts of energy and produce different components or products, but the unfavourable ratio is the same—three expense streams for every one revenue stream.



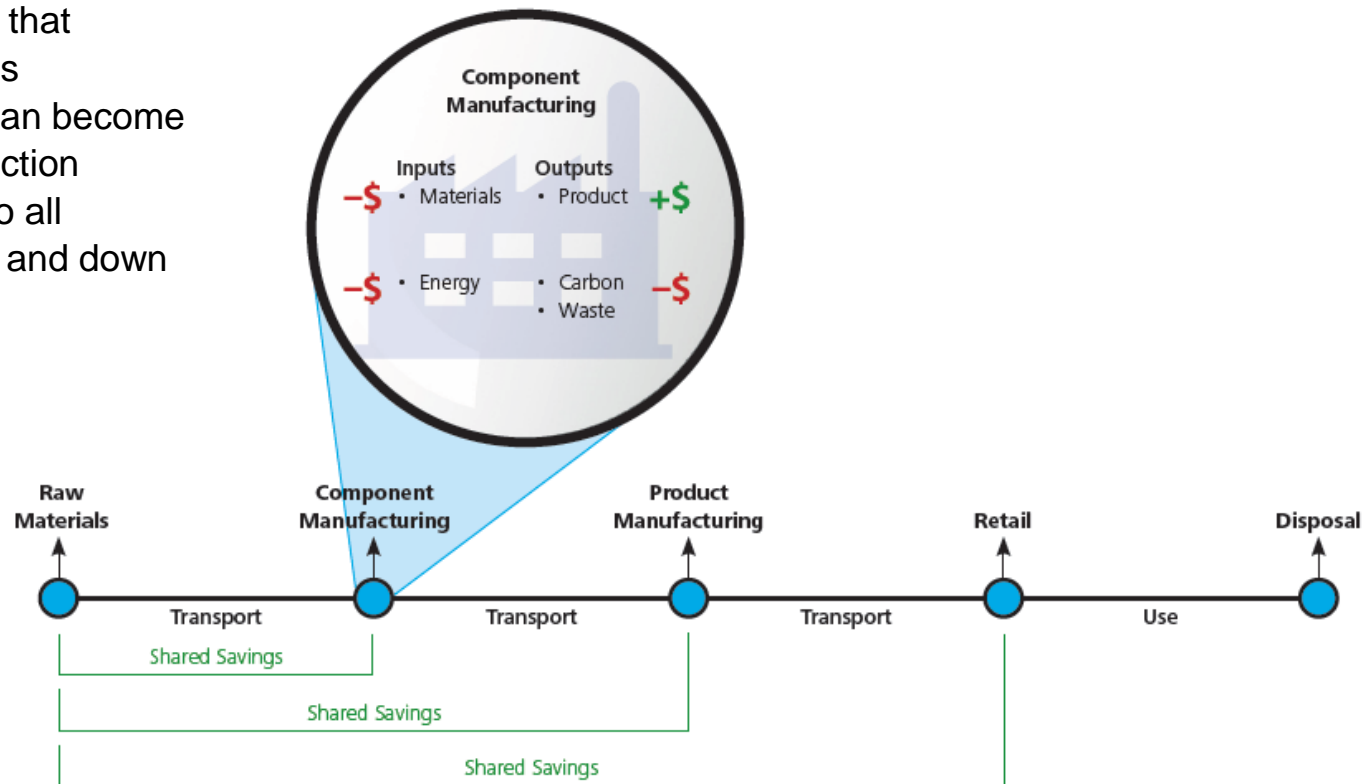
Supply chain inputs and outputs

Broaden this concept as holistically as possible to think about the size and scale of your own supply chain:

- Think about the entire value chain of a product and the materials that go into it;
- the energy and waste material within the manufacturing process;
- the retail disposal and all the transportation to move materials and finished products.

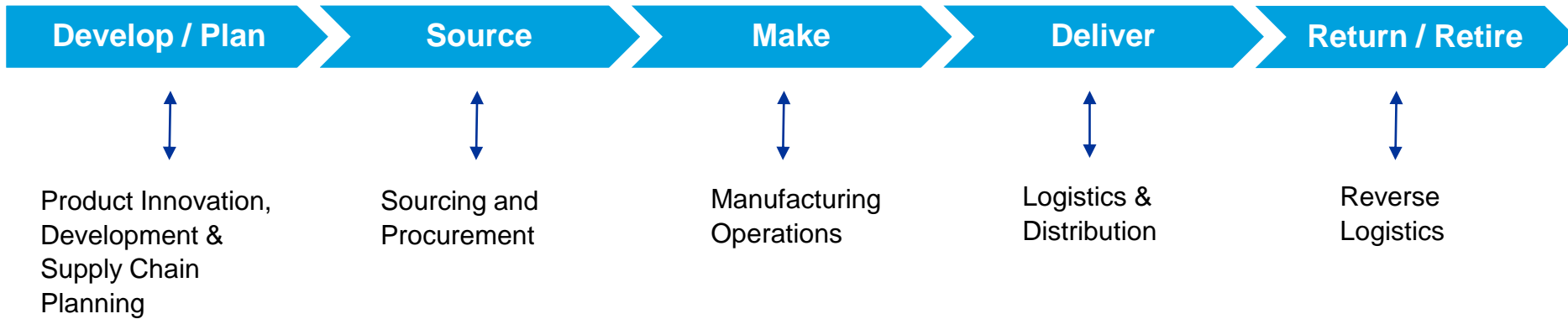
Put all of this into the equation and you can begin to see all the dollar signs that pop up in all the nodes along the supply chain. Apply the five resource metrics – **energy, carbon, water, materials** and **waste** – into this context to learn where these dollars are coming in and going out of each node in the value chain.

All of a sudden, something that seemed like a good savings opportunity at one facility can become a very significant cost reduction opportunity when applied to all processes and facilities up and down the entire supply chain.



The Approach – where do we start ?

The typical supply chain can be represented by the SCOR model:



STRATEGY

PROCESS

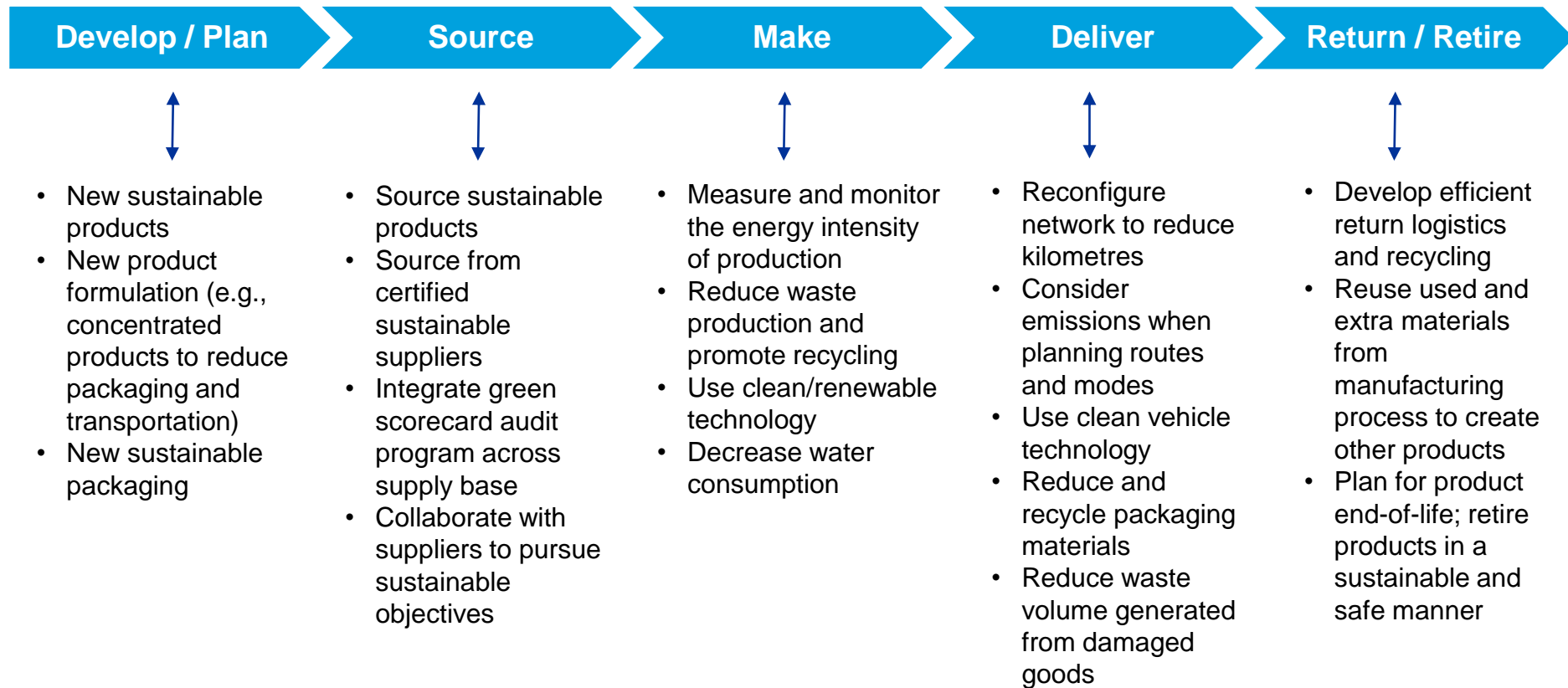
TECHNOLOGY

PEOPLE / ORGANIZATION

PERFORMANCE MANAGEMENT

The Approach – where do we start ?

The SCOR model can be enhanced to include a **resource impact profile**. This in conjunction with a Life Cycle Impact Assessment (LCA) can serve as a guide to identifying the cost reduction actions that can be taken at various points in the supply chain to have a positive impact on a particular stage of the supply chain.



The Approach – the Resource-Focussed Supply Chain Transformation

The previous slide clearly illustrates that there are significant potential for resource savings (using less **energy**, **water**, **materials**, or producing less **carbon** & **waste**) in each of the stages of the Supply Chain model.

A structured approach is required to chase after and unlock those savings that would produce the biggest benefits for you, your suppliers and your customers.

There are five broad steps an organization can take to determine where the five resource metrics are most overused along the supply chain so that savings can be rooted out. These steps are:

1. Assessment
2. Drill down into the hot spots
3. Map to existing solutions
4. Engage the supplier
5. Monetise





Assessment

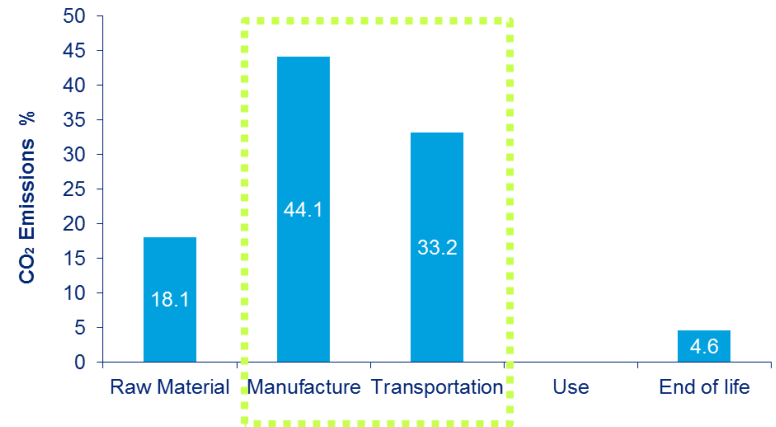
The first step is the broad assessment, or the discovery phase. In this step, you are honing in on the broad areas that represent the biggest potential resource savings in the supply chain. Ultimate actions should be based on a solid understanding of a company’s resource use across the entire chain, from product development, sourcing, and manufacturing through distribution, use, and disposal. To clarify where it should focus its efforts, the company should strive to understand what we call its “resource impact profile,” so that cost reduction and efficiency efforts can be prioritized to make a difference for a company’s business objective.

A bottled water manufacturer, for example, will likely recognize a greater savings opportunity by looking at what goes into the plastic water bottles provided by its supplier than it will by looking at the cost of the ink that goes onto the product label. The manufacturer isn’t going to focus on the ink because on order of magnitude and also in terms of where the energy use is, there is no comparison. So the assessment step will help identify the priorities that matter in terms of resource efficiency opportunities. These hot spots of resource use can be discovered through a process called Life Cycle Assessment (LCA).

LCA Results

Life Cycle Assessment Results

Beverage Manufacturer



Best Phases for “Levers”



Potential Projects

Capture CO2 emission generated in brewing cycle for on sell as “food grade CO2.”
Optimise transport routes and empties returns to minimise vehicle fleet utilisation and exhaust emissions.



Drill down into the hot spots

For each hot spot identified in the assessment phase, the next step is to really drill down and get more detailed data. You will be in the ballpark with the initial assessment, but in the drill down phase you have to refine your case.



For the bottled water manufacturer, for example, this means obtaining from its raw material provider data about the plastic resins used to produce bottles. They will want to understand how the supplier uses energy and raw materials and learn more about the carbon and waste created in the process. The data collected from both the raw material supplier and the bottle supplier can be used to project a much more precise representation of what the plastic bottle portion of the supply chain represents regarding its energy, carbon, water, materials, and waste profile.





Map to existing solutions

The next step is to look at existing efficiency solutions in the marketplace and map them to the areas of energy, carbon, water, materials and waste inefficiencies discovered within the supply chain via steps one and two.

These solutions can be as simple as adding insulation to hot water pipes to something more complex such as finding alternative raw materials that require less energy or less expensive materials in the manufacturing process.

For the bottle supplier, it might want to use less plastic in the bottles to reduce overall product weight as well as to insulate itself from crude oil price shocks, both of which could reduce expenses and put the supplier in a better position relative to its competitors.





Engage the supplier

Discuss with your supplier the results of your resource impact assessment, pointing out where energy, carbon, water, materials or waste is too high for the type of component they make or solution that they provide, and ask or suggest how the solution you have identified to remedy the inefficiency can be implemented.



Monetise



The final step in a resource focused approach is monetising the efficiency opportunities you have found because without turning them into cash savings, this is just a nice story. You would present the case to the supplier that says, given our analysis of your data we believe you can save this much energy, or this much on water or materials cost, or this much by reducing the amount of carbon or waste you currently produce.

We want you to keep part of the savings because you will be making a capital investment to remedy the inefficiency, but we want part of it as well so we can sell more of our product and more of your products and create a competitive edge in the marketplace.

Organizations might not be interested in reducing carbon output in their supply chain by one million tons until they multiply each ton by \$10* and call it cash.



Typical benefits of a resource-focused approach

- **Good proxy for operational efficiency** — due to the ubiquitous nature of energy, carbon, water, materials and waste all up-and-down the supply chain.
- **Very low hanging fruit** — a process improvement at one facility or one node in the supply chain can be easily replicated at all facilities.
- **Significant savings** — are possible when your supply chain is looked at holistically, from raw materials suppliers all the way through retail and product end-of-life.
- **Low risk** — because cost is being taken out of the supply chain without introducing new risk.
- **Rapid payback** — because the remedies to reduce resource use can be fairly simple and easily replicated, payback periods can be among the fastest of any corporate project.
- **Insulate against commodity price shock** — by reducing the amount of energy or materials required to produce a product, you are reducing exposure to price shocks when energy or commodity prices rise.
- **Relationship-building** — the output of one vendor along the supply chain becomes the input for another. This dynamic paves a natural path for engendering collaboration between manufacturer and suppliers to reduce energy, carbon, water, materials and waste in order to save money for everyone.



Big Businesses, Big Pledges

Good for the environment, good for business...



All-in-one Package, accessories shipped together reducing packaging:

- Foam reduction of 6 120 m³
- Corrugated paper reduction - 2 450 000 kg
- Worldwide savings \$ 2.7 million



“Ten Priorities. One Future” Campaign:

- Water - Reduce water use by 25% per hectolitre of beer by 2015
- Energy and Carbon – Reduce fossil fuel emissions by 50% per hectolitre of beer by 2020



Network design and transportation optimisation:

- Reduction of 4800 tons of CO₂
- Savings \$12.1 million



“Building the Next Generation Walmart... Responsibly”

- Be supplied 100% by renewable energy
- Create zero waste
- Sell products that sustain people and the environment

Conclusions

We believe that the application of a resource focused approach can have a transformative effect on business performance and on collaborative, negotiated relationships throughout the supply chain.



Deloitte.

