Shipping's Emissions – A Breath of Fresh Air Needed

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The devastation wreaked by this season's hurricanes may be leading to a climate change policy rethink in the White House, with the cost rising into the tens of billions of dollars. I am reminded by Lord Stern's 2006 apocalyptic prediction[1] of unabated climate change costing 5% of the World's GDP each year by 2050 and possibly 20% in a worst case scenario. Ten years on, Stern soberly commented "*With hindsight, I now realize that I underestimated the risks. I should have been much stronger in what I said in the report about the costs of inaction. I underplayed the dangers*."

World shipping has largely sat on the climate change sidelines over the past ten years, comforted by the fact that the freight carbon intensity (per tonne.km) was significantly below other transport modes and, besides, had a series of financial crises to deal with.

Shipping today emits approximately 1000m tons of CO2(e) p.a. totalling 2.5-3% of the World's emissions. That has been small enough to dodge the regulators' attention to date, but if allowed to grow unabated, could reach 17% of World emissions by 2050[2]. Understanding that the 2015 Paris accord (COP21) requires a 50% cut in absolute GHG emissions, it is hard to see shipping's emissions going unchecked for a long time into the future.

In the nearer term, shipping's NOX and SOX emissions (which represent 12% and 13% respectively of World emissions) have not gone unchallenged and the IMO has acted by introducing the 2020 Sulphur Cap. Last week in a Lloyd's List Business Briefing during London's International Shipping Week, 200 delegates heard that despite Exxon Mobil describing this as "an unprecedented challenge" and the industry being woefully underprepared, there could be no turning back. Industry analysts estimate the cost to be between $30-60bn p.a. of a wholesale switch to low sulphur fuels and, with the industry's historical inability to pass on fuel surcharges, a nightmare the industry is sleepwalking towards.

This last thing currently besieged maritime executives want to hear is me adding my voice to the growing chorus of Doom-Sayers. *What I do suggest is an alternative, to invert the problem and turn it into a real opportunity*.

This situation is not unfamiliar: back in 2006 land logistics providers and their customers across multiple industries faced similar environmental challenges. Whilst many paid glorified lip service and did only what they had to, others embraced it as an opportunity to do something special, as they saw it as a future source of competitive advantage.

Back then, Deutsche Post DHL set a goal to reduce its carbon intensity by 30% by 2020, a target it achieved four years early. It found energy efficiency was a new way to tackle old cost problems *"cost saving projects with a smiley face"* and the challenges thrown up served to inspire its employees and fostered a spirit of innovation. Emboldened, this year they set a far more challenging target of **"Zero Net Emissions by 2050."** Its clear that they have lived their *"Go Green"* journey and have enhanced their brand reputational value as a result. Research I am undertaking is pointing out leaders in other industries who are also building their brand value through their differentiated approach to sustainability, such as BMW, H&M, Cisco, Unilever and Johnson and Johnson, to mention a few.

So what can Shipping learn from these pioneers and champions of Sustainability 1.0 (the first wave of sustainable action 2000-2015)? *I see seven relevant lessons:*

1: A Leader's Moment of Revelation

Top down leadership is an oft over stated critical success factor, but here it is most definitely true, as leadership is paramount to institute a longer term focus in a short term World. The maxim: "to convince others, you must first be convinced" also applies.

Sustainability leaders cite seminal moments that changed their minds and defined the direction they took. Wal-Mart's Lee Scott recalled "*Hurricane Katrina was a key personal moment for me*" he could not bear to see his company with its colossal resources sitting back in New Orleans' moment of need. For me, it was my leader's simple observation *"we are just talking about this*" that embarrassed me into action.

It's important for a leader to make a real statement and put authentic belief into changing a company's values. This can be done by setting Big Hairy Audacious Goals[3] (in the Jim Collins' vernacular) going far beyond the minimum and not at all obvious how it can be done, but inspiring the organization to think differently and innovatively to achieve.

The stage is open for Shipping companies to seize the initiative and make a telling statement.

2: Passion Gives Way to Pragmatism

Back in 2006/7 green messaging was awash with polar bears stranded on ice floes and children crying "Daddy, please save the planet". This really acts only as a wake-up call and will not sustain a journey. Business pragmatists avoided questions such as "is climate change real?" and instead found questions such as "when does energy efficiency not make sense?" or "how can we decouple ourselves from the oil price volatility?" far more useful. Traditionally cost conscious organizations then surprised themselves with new sources of cost savings to mine. Energy efficiency projects on existing assets (to start with) generated real savings and provided a credible solid start that won over the accountants.

The IMO notes that a vessel efficiency improvement between 45-75% by 2050 will be necessary to meet the less than 2^{o}C climate goal. With bunker costs being 60% or more of a voyage cost, this suggests that existing asset efficiency projects would be a sound place to start for shipping.

3: You Cannot Manage What You Don't Measure

It's one of the oldest business adages and certainly applies here. The IMO has instituted carbon reporting on vessels above 5,000 tons from the start of 2018. A choice exists: doing the minimum necessary to comply, or use it as an opportunity to institute a more comprehensive GHG accounting system. The benefit of more comprehensive measurement is the opportunity to spot efficiency gaps that you were unaware of. The distance a vessel moves on a sea passage is often not consistent with the distance tables in chartering or operations systems. The use of AIS[4] data provides the actual route taken in detail, providing not only more accurate emissions and performance data, but allowing the efficiency insight question of why was that precise route taken?

It is clear that sustainability champions have clear carbon accounting systems, which they use to provide critical insights across their business and supply chains. The annual sustainability report is really only a by-product. There is no need to reinvent the wheel on measurement as the heavy lifting of GHG definitions, standards and metrics etc. has all been done and can be leveraged using established software solutions.

4: Thousand Points of Light versus Finding the Building Blocks

One of the key learnings was not to be taken in by an organization's apparent "dazzling constellation of sustainability initiatives": like staring into a night sky and seeing "***a thousand points of light.***" But is the sky light or dark? Is it getting lighter? And which stars are going to make a difference? In truth with this approach the organization is dissipating resources across too many initiatives, does not know which to prioritize and whether alone they would add up to achieve their targets or would more be needed? Experience showed that the most effective projects are near invisible, unlike frivolous initiatives such micro wind turbines placed above the company's headquarters. Many of these had been initiated by well meaning employees which the company did not have the heart to stop.

A programmatic approach is necessary and understanding the pareto (80/20) relationships that will exist within. Some actions or assets are replicated across an operation and supply chain many many times. Reducing the energy content in these **"building blocks"** has a substantial multiplier effect. Lowering HGV tyre friction, for example, reduced fuel consumption by 4%, which when multiplied by the millions of kilometres travelled each year turns into a substantial saving.

The building block approach may look dull and perhaps boring compared to the thousand points of light, but can be staggeringly effective. Where could the "building blocks" be in shipping? Reducing the vessel energy consumption in port? Increasing the percentage of ships coming directly alongside in port? Let's see the building blocks which are out there !

5: The Hidden Business Case – Employee Engagement.

No one underestimates the value of an engaged employee. Employees tend to have longer term time horizons and when they believe that their organization is playing for the long term too it makes a difference to them, breeds loyalty and engages them to firstly care and do more. Leading organizations have witnessed spontaneous car-sharing, waste composting and "switch it off" campaigns emerge, as welcome unintended consequences of authentic company programs.

This also works in reverse too and can not only turn off an employee, but can even turn them into a "whistleblower" when they see their company "doing the wrong thing", as recent "Magic Pipe" waste water incidents demonstrated.

6: New Networks Emerge

One of the most interesting observations of Sustainability 1.0 was the realization of working with new and very different people, that a company had not previously thought about or indeed even knew about. For example: the idea of sharing energy purchasing with complete strangers, because they have the exact opposite and complementary power demand profile, or collaborating with a very different organization because they see your waste stream as their raw materials.

Organizing into new energy or circular economy "networks" may take the organization out of their comfort zone and having to learn to play with new players, but that is becoming innovative to meet the challenge.

7: Central to The Way You Do Business, Not an Extra Task

Many hear the word sustainability and their eyes glaze over, they go through the motions and only do what they have to. They have a sustainability officer, issue an annual report and comply with regulation with little differentiation. It is seen as an extra task, a burden and nothing to do with their core business purpose.

Leaders see this an opportunity to perform their business differently and serve their customers in a better way. Take Philips, a global producer of light bulbs. When they introduced vastly more efficient LED lights they cost more and, despite a valid business case, customers hesitated to pay the up-front cost. Philips then introduced the concept of selling "Light" (or Lux) where they pay for and manage their customers' lighting systems and customers pay for only the light energy they use (with the savings baked in). The customers get lower costs and Philips get sticky relationships and sustained future revenue flows.

One wonders how many lights there are on cruise liners?

Yet another Nail in the Coffin or a New Hope ?

Shipping is coming from behind: it has not only to implement low sulphur fuels by 2020, it must also stop emissions growing, reduce its absolute emissions by 25% by 2030 and by 50% by 2050, in order to play an equal part in achieving the Paris accord. With vessel life cycles reducing to 15 years, this really allows two technology cycles to be be fully implemented. Yes, vessels will get larger, become more efficient, use cleaner fuels and may well be controlled autonomously, but a choice exists to either sit back and wait for these technologies to be presented at reasonable costs, or to seize the opportunity now and start to rethink how your business could benefit and indeed be transformed by sustainability.

Shipping's customers are already ahead and the leaders will be looking to work with the emerging shipping leaders to help them meet their goals. The beleaguered shipping industry can see this as yet another "nail in the coffin" or indeed a "new hope". Rather than to try and pass on a sulphur cap fuel surcharge, perhaps presenting a sustainable business proposition would come as a "Breath of Fresh Air" to its customers and employees.

1. Lord Nicholas Stern, UK chief secretary to the treasury report "The Effect of Global Warming on the World Economy" published in October 2006.
2. IMO 3rd Greenhouse Gas Study 2014
3. Big Hairy Audacious Goals – as proposed by Jim Collins and Jerry Porras in "Built to Last: Successful Habits of Visionary Companies" 1994.
4. AIS: Automatic Identification System, which provides positional data for shipping all over the world and makes it available via commercial databases.