

Linking Pollution Prevention & Strategy for 21st Century Business Success

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Overheard on Air Canada flight 118 from Calgary to Toronto: "We just throw them away. They're disposable".

Air Canada flight attendant to passenger describing what is done with the airline's headphones.

In 1962, Rachel Carson began ***Silent Spring***, a book that has been an intellectual and moral compass in my life, and many others, with an artful play on Robert Frost's poem, ***The Road Not Taken***. In her good words:

We stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road - the one "less traveled by" - offers our last, our only chance to reach a destination that assures the preservation of our earth."

While the word "sustainability" was not yet part of the popular lexicon in 1962, I know in my bones that Carson was pointing us in this direction – toward a renewed

relationship with the earth and with each other; toward a world in which economic, social, environmental and cultural aspirations are considered not as isolated goals, but as interdependent parts of a single system.

Forty-four years later, we stand tentatively in the doorway of a new century, looking at all that might unfold before us. And there is much discussion and debate about the relationships between environmental protection, economic development, and social welfare. The things that distinguish one company from another, and the role, if any, that sustainability might play in this differentiation process is a particularly boisterous discussion. How much we have yet to learn! As George Brandy, echoing Martin Luther King, put it:

“...the manacles of air toxicity and the chains of global warming still cripple the life of our young children. Our young children live on a lonely island of poverty in the midst of a vast ocean of privatized corporate wealth and socialized public risk.

John Robinson and Caroline Van Bers have described our global plight in equally stark terms:

We are faced with a staggering set of ecological, economic, and social problems, including massive environmental degradation; global economic integration coupled with financial instability, structural unemployment, debt crises, and widening gaps between rich and poor peoples; and a crisis of governance and social problems marked by increased militarism, social and ethnic unrest, and tribalism of various kinds. It is our position that all of these phenomena are connected, and that all are evidence of the growing ecological, economic, and social unsustainability of business-as-usual patterns of development.

I say global plight, but you can see evidence of these problems in virtually every city in Canada. My newly adopted home of Calgary is basking in the glow of an economic boom, but it's a boom fueled by fossil fuels, and despite the new wealth being created, there is a disquietingly large number of people living on the streets. And David Schindler, one of the world's foremost environmental scientists, warns that Alberta, if not Canada, faces a looming water crisis. Any one of you could describe a similar set of circumstances where you live. The specifics may differ, but the underlying message is the same – we have yet to take the other fork of the road. As a society we

have yet to commit to living as part of the earth by understanding development as a process to be sustained, not exploited to impractical limits. It is time for us, all of us, to truly honour the legacy of Rachel Carson, or if you prefer, to answer the call of the poet, David Whyte, who asks if we are prepared to truly live in the world. To raise our eyes toward the horizon; to bring the horizon into the room; and to get busy making the world a better place. Make no mistake, I believe we're making some progress, and this roundtable is a celebration of that progress, but we need to ask if our efforts are transactional rather than transformative. Put another way, we need to ask if we are doing the best we can within the rules of the game, or whether we are actively working to bust through to a wholly new game. As we prepare to return to the organizations that are our homes, let's make a pledge to resist the routine, the transactional; let's make a pledge to resist the tendency to become incredibly good at things that don't necessarily create the future we want. Let's ask what is the

larger picture of which pollution prevention is a part, and how do we connect to and shape that picture? And so to the topic of my remarks this afternoon, ***Linking Pollution Prevention & Strategy for 21st Century Business Success.***

In 1990, the Swiss industrialist, Stephen Schmidheiny (whom some of you will recognize as the founder of the World Business Council for Sustainable Development) predicted that the world was poised for a new industrial revolution based on a more strategic approach to environmental management. As he put it:

"...it is the most forceful trend in my lifetime. It will reshape business because it will redefine the rules of the game."

On the one hand, I think many of us here would agree with those words. But I think we would also have to agree that the revolution hasn't yet happened, or if it is happening, it's in the early stages. I can think of at least two reasons for

this. The first speaks to the fact that people are slow to change. There's a well-worn story about a 17th century English sea captain that illustrates this beautifullyⁱ. In 1601, James Lancaster served lemon juice to the crew on one of four ships he was commanding on a trip to India. Most of the crew on this one ship remained healthy, but on the other three ships, 110 of the 278 sailors died of scurvy by the journey's midpoint. Now, this was important stuff to 17th century seafarers because scurvy claimed more lives than anything else. So, you'd think Lancaster's experiment would ignite revolutionary change. Not so. The British Navy didn't stock citrus fruit on its ships until 1795 – nearly 200 years later. Despite the magnitude of the problem, and the availability of a simple solution, people were slow to change. The second reason we haven't seen the full flowering of a new industrial revolution was artfully described by Michael Shellenberger and Ted Nordhaus in their essay, ***The Death of Environmentalism***: "most people wake up in the morning trying to reduce what they have to worry about."

Environmentalists wake up trying to increase it". It pains me to say that those of us with an interest in sustainability tend to be viewed as little more than latter-day environmentalists. We may know how we differ from our "green" friends, but to the mainstream we need to reach, we're too often seen as the "same old", "same old". This is particularly true of our relationship with business. We need to build a bridge to understanding that helps us work to mutual benefit. This requires that the business community think beyond next-quarter financial results, to be sure, but it also requires that most of us in this room develop a deeper appreciation for how business strategy is created and implemented.

There is a important question that lies at the heart of this thing we call strategy:

- How do organizations form a vision of where they need to go?

The answer to this question is vital because it speaks not

only to the activities that will be carried out, but also to the culture of the organization – the “way things are done”.

This latter point is very meaningful for me; it speaks to a fundamental – perhaps *the* fundamental – role of management: to see the organization not as it is; but as it can become. *As it can become.* I love that expression and the image of change it suggests.

How does a firm decide what it wants to be, what it wants to do? How does a firm forge a strategic identity or posture? The strategic posture of a firm says a good deal about how it views the industry of which it is a part. Does the firm want to shape industry structure, perhaps in a new direction, adapt to opportunities as they present themselves, or reserve the right to play under several possible scenarios by making incremental investments?

The choice of strategic posture will influence the sources of competitive advantage around which the firm builds its strategy. Collectively, competitive advantage and strategic posture define the strategic intent of a firm. The

next two steps are to translate strategic intent into concrete actions that will create value, and to implement those actions. As advocates for P2, or indeed sustainability, if we understand, or better still, can contribute to the creation of this strategic map, we can more effectively demonstrate where and how P2 interventions support overall business strategy. And of course, failure to understand this map condemns us to working at the margins of the organization and having little influence over its risks and opportunities.

Within the last year we have seen two of the world's largest businesses make sweeping changes to their strategy. **General Electric** launched "ecomagination" to accelerate the company's growth and make it more competitive. The company is making strategic and substantial (up to \$1.5 billion annually) investments in wind power; desalination; and fuel-efficient jet engines and locomotives; and has vowed to improve its energy efficiency 30% by 2012 to enhance shareholder value. Meantime, **Wal-Mart**, America's largest retailer has announced that it is going to

dramatically reduce energy consumption in its stores, double the fuel efficiency of its truck fleet, minimize the use of packaging, and perhaps most interestingly, pressure its supply chain partners to follow suit.

Why are these companies making these shifts?

Because the message has now been heard. They make, or sell many of the products that keep the global economy humming, and they believe there is money to be made in making those products more environmentally benign. Put another way, they see tremendous opportunity in figuring out how to accommodate economic growth with less impact – how to generate profits while protecting the public interest. The optimist in me would add that they see that society expects, and will reward, behavior that is environmentally and socially responsible. It may, therefore, be in a firm's interest to reduce or remove pollution, and to voluntarily correct other market failures. This is a powerful counterpoint to the traditional argument that "in a free economy there is one and only one social responsibility of

business—to use its resources and engage in activities designed to increase its profits”.

Two decades ago, Gordon Gekko, the flamboyant anti-hero of Oliver Stone’s film, ***Wall Street***, might have said that greed is good, but the storyline has changed. Today we live in a world where 5 billion people want to mimic the behavior of 1 billion – at a time when scientists and our own nose for the truth tell us that we are close to, at, or beyond the carrying capacity of our planet. Today, we know that there is a better way. Today, we know that green is good; that green works. There doesn’t have to be an inevitable conflict between the public interest and profitability. If you remember just one thing from my remarks, let it be this – **sustainability is not ideological; it is a pragmatic response to hard core business realities that are cast into sharp relief by strategic planning and risk assessment that looks beyond the horizon of the next quarter or the next year.** Let me ask each one of you – what percentage of your firm’s profits or your organization’s

operating budget are reinvested in an innovation agenda?

Seventy years ago Joseph Schumpeter defined profit as “the premium put upon successful innovation in capitalist society and [it] is temporary by nature: it will vanish in the subsequent process of competition and adaptation”. In an era characterized by hypercompetition, it seems clear to me that a portion of your profits needs to be reinvested in activities that deliberately push the envelope of your firm’s business model – or indeed the conventional wisdom of your business. For what it’s worth, that’s also one of the three system conditions Herman Daly has identified for sustainability that “makes sense” in economic terms – require that part of the profit be put aside for investment in a renewable substitute resourceⁱⁱ.

How do we talk about pollution, about waste, and crucially, pollution prevention – not so much among ourselves (although that matters too), but among the businesses and organizations we want to change? I would respectfully suggest that we need to step up our level of

effort at positioning these things as important components of risk management. By way of example, doing business or planning communities without paying attention to energy costs – in the broadest sense – is turning a blind eye to serious risks to shareholder and societal value. I want all of us to work with our business and organizational colleagues to unpack our supply chains and value chains and see where we're leaving money on the table and where our business models might be vulnerable in a carbon-constrained world. How do we do what we do? Where do we source raw materials? How carbon intensive are those materials? How do they get to our manufacturing plant or plants? How efficient is our equipment? How do we move product around? It is worth remembering that the **Carbon Disclosure Project** is a coalition of 211 institutional investors with more than \$31 trillion in assets – it is NOT an environmental group – and these hawk-eyed number crunchers know that how a company thinks and acts with respect to energy can create considerable risk as well as

opportunity. A company's approach to carbon management is increasingly becoming a distinct source of competitive advantage – not unlike the decisions that it makes on the selection of markets, management of its supply chain, or investment in technology.

When I think about pollution prevention, I think about a metaphorical arrow in the quiver – a key tool to help shift society onto a more sustainable trajectory. I also think about something that is a rock-solid business strategy; something that links financial and environmental performance by focusing on how more value can be created with less environmental impact. Quite apart from the obvious environmental or social benefits, I see P2 as something that can create impressive benefits for a business. Differentiation advantage is especially important in this regard – advantage based on a product's characteristics and performance, as well as favorable social, emotional, and psychological reactions toward the firm that enhance its image and reputation. Differentiation may also result in a

firm being accorded a lower cost of capital because it is perceived to be less risky overall. And the real beauty of P2 for me is that it allows business to get “traction” in several different ways – from process optimization to waste recycling; from eco-innovation to the creation of new services. And while it’s great to see global players like GE and Wal-Mart stepping into this brave new world, you don’t have to look far afield, or have the deep pockets of a GE or Wal-Mart to get inspired.

Vancouver’s own **Westport Innovations** is a leading developer of environmental technologies that enable vehicles to operate on clean-burning alternative fuels, and the firm has already sold 2,000 compressed natural gas bus engines to China. **Mountain Equipment Co-op** has generated savings of \$63,000 a year at its Vancouver store alone through recycling, and the **University of B.C.** has saved over \$1 million by retrofitting lighting. **Telus** has saved nearly \$400,000 a year through waste reduction and recycling efforts, and created a new multi-million dollar

revenue stream through equipment re-sale. In Victoria, the **Dockside Green** development intends to have the lightest ecological footprint of any development in the world, and **BC Hydro** will spend \$600 million over the next 10 years to *reduce* demand for electricity, and it will generate 50% of new power from clean energy sources. Finally, the **Elk Falls pulp mill** on Vancouver Island, a major player in the local economy and a place my father worked for many years, retrofitted its main power boiler, and reduced landfill costs due to a significant reduction in fly ash. Maintenance costs were also reduced, which increased the boiler's availability, and reduced the mill's reliance on other energy sources.

An especially important part of the Elk Falls story is the willingness of management to use a modified accounting analysis to more clearly understand the costs and benefits which shape the bottom line. The analysis included landfill costs to be sure, but also included boiler operation and maintenance, and environmental permitting costs. The results pointed to future savings that were more than double

the capital cost of \$10 million. Best news of all? The companies I've named represent just the tip of a pretty big iceberg; more and more businesses see that green is the color of money.

When I think of these case examples, the key message that lingers, apart from the flush of cost savings, is the extent to which new techniques, new skills, and new perspectives were brought to bear on the problem of improving environmental quality as well as social and economic opportunity. And so it is that P2 creates efficiencies that improve the bottom line, and move us a little closer to getting the prices of goods to more accurately reflect their true lifecycle costs. This is huge. In the current edition of *Report on Business magazine*, Fabrice Taylor underscores the importance of moving to a better form of lifecycle accounting. He says:

There is a market-based fix to our predicament: If we could find a way to properly account for the full

financial cost of our addiction to oil, gas and coal, the invisible hand would adjust prices and demand accordingly. So forget the tree-hugging activists; it's up to the accountants to save us from ourselves.

He's right, of course. We need to make the accounting for lifecycle costs not a novelty, not something to be showcased in a speech like this, or indeed a roundtable like this, but the norm. Notwithstanding some progress by the Canadian Institute of Chartered Accountants, we need to hold the accounting profession's feet to the fire, celebrate the willingness of managers like those at Elk Falls mill to do something different, and find more good stories to keep us moving toward a day when NOT accounting for life cycle or total costs is an attention grabber. We know this doesn't have to hurt; we know that this can be good for the environment and the bottom line.

The question now is "what comes next?"; how do we build from these early days of a new industrial revolution

and forge a world in which waste is food, fuel and opportunity? A world in which our entire conception of waste is redefined?

In 1969 Ian McHarg published *Design with Nature*, arguably the most influential book in landscape architecture and design in the 20th century, and a book that introduced many ideas that would be popularized thirty years later under the biomimicry and green chemistry labels. He begins with the words “The world is a glorious bounty”. What he means is that the answers to our design (and other) questions are inevitably to be found in nature. He says:

In the quest for survival, success and fulfillment, the ecological view offers an invaluable insight. It shows the way for [humanity to be]...steward...realizing design with nature.

This is a useful touchstone for us, I think. Waste is, after all, a human construct: in nature there is no waste. There’s an example of a B.C.-based business that I think has begun

to show us at least some of what might be possible under the umbrella of “what comes next?”.

Tolko Industries Ltd., a privately owned forest products company, operates a plywood mill in Heffley Creek in central B.C.. Last year, the company entered into an agreement with **Nexterra Energy**, a Vancouver-based company that builds gasification systems that convert solid “waste” into clean, low cost heat and power. Under the agreement, Nexterra has been building a gasification system that will convert 25,000 tonnes per year of green, bark wood residue produced on-site into clean, renewable thermal energy. The energy produced will displace approximately 235,000 gigajoules per year of natural gas currently used at the mill to produce hot water for log conditioning and to dry veneer.

It’s estimated that Tolko will realize fuel cost savings of over \$1.5 million annually, reduce VOC emissions from the mill, and reduce Tolko’s greenhouse gas emissions by an estimated 12,000 tonnes per year. Tolko management

rightly view this venture as a strategic investment in new technology that will help the company become more competitive and energy efficient. The venture is, of course, also an example of industrial ecology, something I know has been discussed at this roundtable. And I raise it here both to celebrate the thinking and the action that underlies it, but also to sound a caution.

Several years ago, Michael Porter, the Harvard professor and arguably the world's greatest authority on competitive strategy, and Dan Esty of Yale University examined the extent to which industrial ecology could convey competitive advantage at the level of the individual firm. Time doesn't permit a full discussion of their work, but I find their conclusions useful for those of us who might otherwise promise too much, too soon and inadvertently lose credibility, particularly with the business community. Porter and Esty concluded that:

"...industrial ecology will often be useful for firms seeking to improve their resource productivity and thus

*their competitiveness. The systems perspective that industrial ecology promotes can help companies find ways to add value or reduce costs both within their own production processes and up and down the supply chain. **But industrial ecology cannot always be counted upon to yield competitive advantage at the firm level. In some cases, the cost of closing loops will exceed the benefits***".

The authors further conclude that:

"...because industrial ecology focuses attention on materials and energy flows, it may not optimize other variables that contribute to competitiveness within the corporate setting".

I am perhaps stating the obvious, but it seems to me that as we look for more sophisticated and nuanced approaches to P2, particularly as part of a broader sustainability objective, we need to foster a way of thinking, as well as the requisite tools, that allows us to consider multiple variables that affect organizational performance. We are then better positioned

to frame P2 in a strategic management context, and open up the even more exciting proposition of P2 as a driver of social and organizational change. At a firm level, this means understanding that when you make an environmental intervention, the rest of the company's activities, notably marketing and R&D, don't stop. Within government, this means bringing cabinet and ministerial colleagues onside – we have to stop preaching, generally, but especially to the converted, and listen to what others want to achieve. We then have to create or co-create the conditions where we can collaborate in the fullest and truest sense of that word.

In a speech toward the end of 2005, Ray Anderson, the charismatic Chairman of Interface highlighted three aspects of his company's journey to sustainability that I find compelling and highly relevant to our deliberations here. The cumulative savings from eliminating waste in the manufacturing process have been \$289 million over 10 years – that's nearly \$30 million of found money each year, and a pretty potent retort to the charge that sustainability

costs money. Perhaps more impressive, he says that Interface's products are the best they've ever been because sustainability has proven to be an unimagined source of inspiration and innovation – his people are galvanized around a higher purpose. THIS is the conversation I'd like you to have – we're all good at "transactional" work, executing the game plan; but are we missing the much more exciting game of "transformational" work? This idea of a higher purpose, is really about self-actualization. And you can't beat it for bringing people together and rounding out the business case. As Anderson puts it, "there is no amount of money we could have spent on advertising that would have generated as much goodwill or contributed as much to the top line, to winning business. To those of you who have the occasional "dark night of the soul" and wonder why we're doing this work, or how we can convince others, there's your answer.

And it's an answer that is motivating more and more businesses. Jeff Swartz, the CEO of **Timberland**, is using

the resources, energy, and profits of a publicly traded footwear and apparel company to fight social ills, help the environment, and improve conditions for laborers around the world. Oh yeah, his company's sales have been growing at a compound annual rate of nearly 10% over the past 5 years, and the company's stock price is up 64% over the same period. As Swartz puts it, the idea of helping others is a vision around which he is creating a more productive, efficient, loyal and committed employee base, which drives real financial results. **This could be the new business ethos.** And whether this ethos is manifested through organizations like the **World Business Council for Sustainable Development** or through the actions of energetic individual companies the bottom line is clear – we can build from where we are now; we can use P2 to help business backstop good words with tangible actions that slay the myth that one can't be green and competitive. Over the past decade, **DuPont** has boosted production nearly 30% but cut energy use 7% and reduced GHG emissions 72% -

saving more than \$2 billion. Five other major firms – **IBM, British Telecom, Alcan, CatalystPaper, and Bayer** – have collectively saved another \$2 billion by reducing their carbon emissions. What else might be possible? How might we use P2 as a key plank in what is now popularly called “blue ocean strategy”? On the one hand, this is a call to think about how P2 can help a business out-perform its competitors in the known market space. But it is more than that. Chan Kim and Renee Mauborgne, who have introduced and championed the idea, draw an elegant distinction between “red oceans”, which are well explored, crowded with competitors, and characterized by cutthroat competition, and “blue oceans”, which represent “untapped market space” and the “opportunity for highly profitable growth”. Here, competition is irrelevant (or at least different) because the rules of the game are waiting to be written. This may seem an audacious thing, but how might we build a blue ocean strategy rooted in P2? I invite all of you to think about that in the coming days. We all have

some work to do. We need good stories. Stories that demonstrate how green is the color of money. I've shared a few with you, but we need more. And we need to share those stories widely. We need to dramatically accelerate the sustainable business agenda. THIS is blue ocean territory. THIS is the ultimate P2 conversation.

In 1996, the Province of British Columbia produced a document, ***Introduction to Pollution Prevention Planning for Major Industrial Operations*** that had some particularly stirring language that still resonates for me:

"...today, both government and industry recognize that it is necessary to move up the pipe to avoid, eliminate and reduce pollution at its source...Pollution prevention also provides value-added benefits to industry. It is as much about increasing efficiency, reducing costs, improving flexibility and gaining a competitive advantage as it is about enhancing the ability to protect the environment."

There is probably a lifetime of work in those words. And it's the best kind of work; the kind of work that makes you want to do more than simply show up. Those words excite me; they make me want to do the very best work that I can do. They also make me want to ask, "Okay, where are we now, what comes next, what needs to be done?" And I'm moved to ask those questions because I believe the people of Canada, the constituents we all serve, want us to ask those questions. I believe Canadians recognize that sustainability of their economy and communities is dependent on preservation of a sustainable environment.

So my friends, we need to keep raising the bar, we need to keep asking what comes next? What is the good work that we need to be doing now?

In part, this means taking a closer look at P2 and sustainability and contributing to what I hope can become an ongoing strategic conversation about what those words mean on the ground. It means understanding where we currently sit with respect to performance, and becoming

ever more creative in improving performance. This is where the principles and practice of ecological design can help us – we can systematically think or re-think a product or service to minimize the impact of materials and manufacturing, to optimize distribution, to make its use have a light footprint on the earth and society, to optimize the lifetime of the product or service, as well as the end-of-life. But it seems to me that as good and useful as these things are, if we are to truly link P2 and strategy, we need more, we need better, and we need different.

We need to embrace what Joanna Macy calls **The Great Turning**, the essential work of our time, the shift from an industrial growth society to a life sustaining civilization.

We're beginning to do this. We're taking action to slow the damage to the Earth and its peoples, at least in an ad hoc way. And we're even beginning to address the structural causes of our global sustainability crisis – the tacit agreements between individuals, governments, businesses and civil society organizations that define "the way things

are done". Equally, we are beginning to propose alternative structural models. Where we have much work to do is in shifting the consciousness of everyone who is traveling with us on Spaceship Earth. As we articulate structural alternatives that redefine our relationship with the earth and with each other, we need to acknowledge that this is the stuff of cognitive revolution and spiritual awakening. We need to step back from what is right in front of us and say that the answers to what most ails us are likely to be found in deep ecology, spiritual traditions, especially indigenous spiritual traditions, eco-feminism, and eco-psychology – ***and the integration of these ways of knowing***. And so, whether it is the Canadian Centre for Pollution Prevention looking forward 5 years, the Eco-Efficiency Centre rethinking one of its goals, or one of you thinking about what comes next in your personal or professional life, I encourage – no that's not strong enough – I exhort you to embrace The Great Turning. It will help you more effectively position P2 on an organization's strategic map, but it will do so much

more than that.

As a motivational bridge that might help you begin this work, I want to share an excerpt from a poem by David Whyte that has always helped to both ground me, and exhilarate me. The poem is called ***What to Remember When Waking.***

You are not a troubled guest on this earth,
you are not an accident amidst other accidents
you were invited from another and greater night than the
one from which you have just emerged.

Now, looking through the slanting light of the morning
window toward the mountain presence of everything that
can be, what urgency calls you to your one love? What
shape waits in the seed of you to grow and spread its
branches against a future sky?

Think of those good words as you travel home tonight or
tomorrow. Think of them when you re-engage with your

colleagues next week. Use them as a talisman against the safe, the routine, the transactional. Use them to help ignite transformation.

Thank you.

ⁱ Gary Gardner (2001) "Accelerating the Shift to Sustainability", pp. 189-206 in L.R. Brown et al. (eds.) *State of the World 2001*. New York: W.W. Norton & Company

ⁱⁱ The other system conditions are: (i) harvest renewable resources only at the speed they regenerate; and (ii) limit wastes to the assimilative capacity of the local ecosystem.