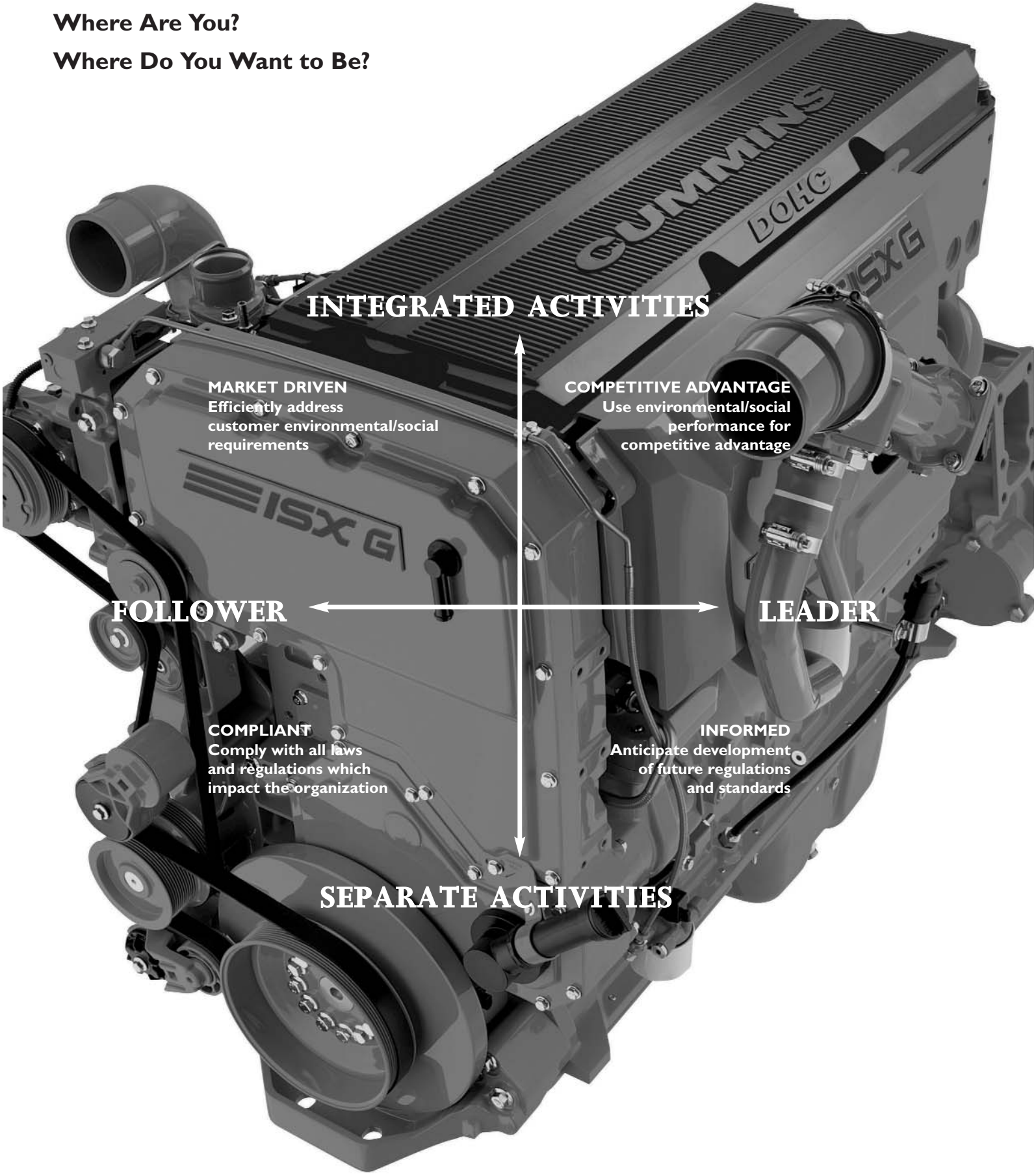
THE SUSTAINABILITY JOURNEY

Where Are You?

Where Do You Want to Be?



Design for Sustainability (DfS) Toolkit

Five steps to help small and large companies embark on a journey towards sustainable design and green profitability.

Ralf Nielsen and Kevin Brady, Five Winds International

Design is an innovation point to ask "what is the service we are trying to deliver?"

Increasing globalization, revolutions in information technology, and rapid process and product innovations will shape the business climate of the 21st century. Another factor, population growth and its attendant increase in resource consumption, will contribute to continued ecological pressure in areas such as climate change, soil degradation and stratospheric depletion. Population growth will also profoundly affect markets. For example, it will cause increased demand for energy while simultaneously creating pressure to reduce the carbon intensity of energy supply options due to the effects of pollution.

How is the business community to respond? In one possible scenario, these ecological pressures may lead to a decrease in the material and energy content of products and an increase in the knowledge content.

The population changes and attendant ecological pressures are already resulting in a rethinking of business strategies to focus on how companies can deliver higher value products and services to their customers while minimizing impacts on ecosystems and maximizing benefits to society.[1]

Critical Role

Alongside sustainability policies, strategies and corporate social responsibility, businesses have responded by looking at how they design the core products and services they provide. Companies have recognized that:

1. Design is an innovation point to ask "what is the service we are trying to deliver?"
2. Design dictates the technologies and means of production, the way in which products are used by customers and thus its environmental and social impacts.
3. 80% of environmental impacts of a product – costs, emissions, resource use, wastes – are determined at the design stage.
4. Sustainable design is good design – it is more holistic and requires integrated consideration of economic, environmental and social factors into the design process.

Sustainable design links social and environmental issues to the core business functions of companies (e.g. procurement, design, brand management, sales etc.) and provides a wide perspective that enables senior management to understand the broader impacts of their decisions (e.g. to understand how selecting a certain material will affect the overall greenhouse gas emissions of the product system).

The case studies in this issue provide evidence that, in Canada, SMEs in a variety of business sectors are developing policies, programs and tools to support innovation and the development of more environmentally benign and socially responsible products and services. This is mirrored internationally by leading companies where sustainable design is seen as a key component of a sustainable business strategy (i.e. a strategy that encompasses and integrates economic performance, environmental performance and social responsibility). At BASF, for example, the Product Stewardship Group has developed eco-efficiency tools that help them with strategic decisions on products, identification of improvements in existing products and evaluating new products and technologies.[2]

Getting Started: Five Common Milestones

The case studies in this issue have illustrated a number of concepts and tools that enable organizations to evaluate and improve the sustainability of their core business whether it is creating high design office furniture or providing landscape architecture services. There are a range of design for sustainability concepts and tools that focus on products, marketing, operations, supply chain and management. However, businesses often spend considerable effort exploring and trying to understand which tools they should adopt and to what extend they should be implemented.

The integration of sustainable design into a company's core activities is an evolutionary process that is influenced by a complex, and often confusing set of factors (e.g. competitors, internal resources, change management). Responding to these factors requires an understanding and sensitivity to the organization's internal culture, existing systems, initiatives, its market and stakeholders (to name a few). Each case study in this issue illustrates a different journey to implement sustainability within the organization's core activities. Regardless of the path this journey takes, it often includes five common milestones. Knowing what these milestones are can help companies plan their own journey more effectively. We've put together these milestones in the form of five questions as a guide for small and large companies seeking to design for sustainability.

1. WHERE AM I?

Start by identifying your company's internal and external context. This includes identifying the key ecological, economic and social factors affecting the company now and in the future, as well as customer and market pressures, stakeholder needs and regulatory issues. This information and

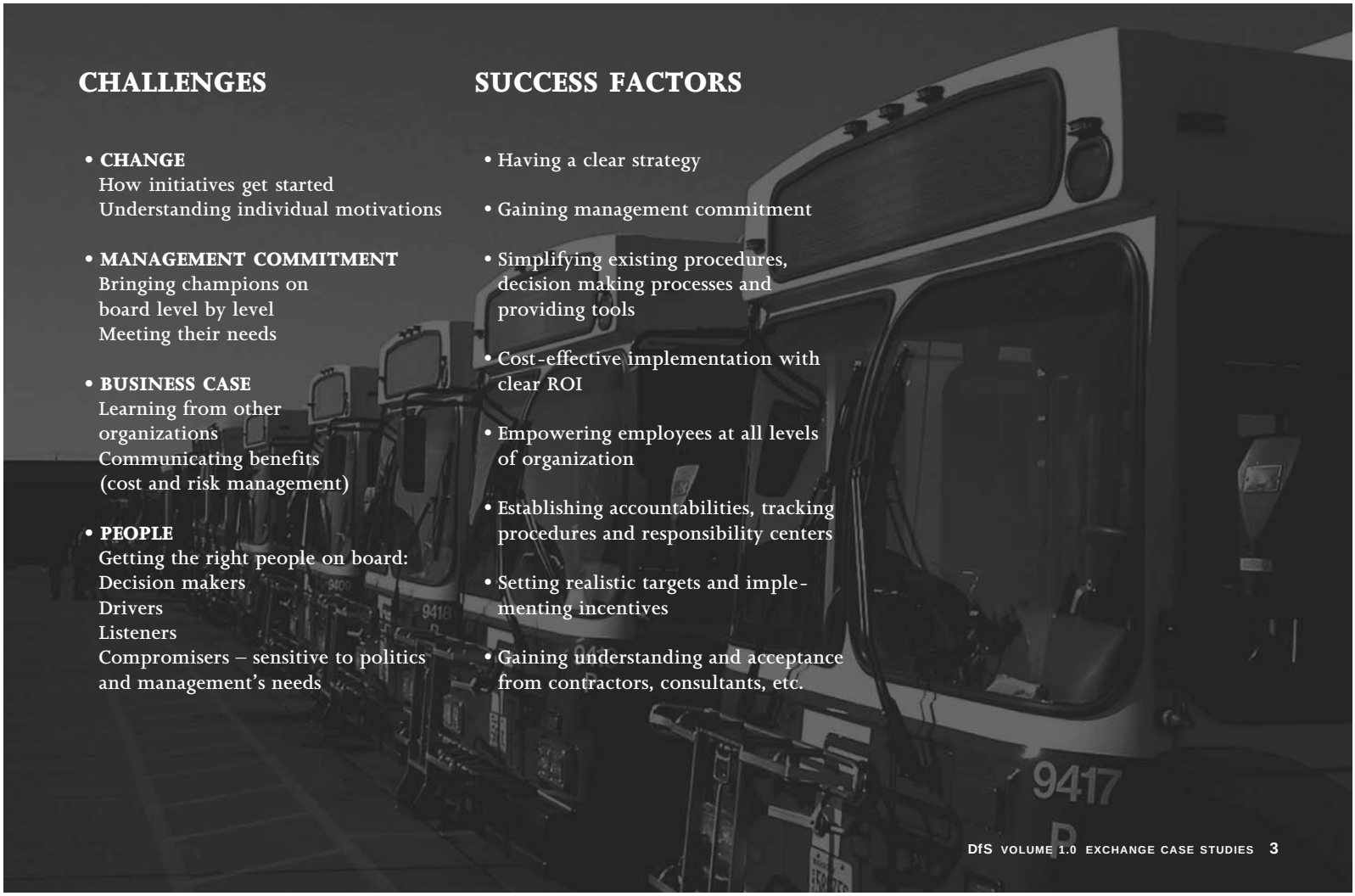
other relevant information is used to position the company in context, understand the value chain, the sector it operates in and describe "current reality."

The milestone: ensure that senior decision-makers understand the environmentally-driven risks and opportunities that lie ahead for the business. Take stock of design initiatives that have resulted in clear business, environmental and social performance improvements. These can be leveraged with senior management to illustrate the benefits of sustainable design to the value proposition of the company. Internal sustainability champions should also recognize potential internal challenges (e.g. management commitment, employee buy-in, technical understanding) they need to plan for.

2. WHERE DO I WANT TO GO?

Next, a strategic direction is developed by cross-functional teams in order to understand how sustainability considerations can be integrated into the overall business strategy of the organization (e.g. leverage sustainability to gain competitive advantage, market driven, or stay continuously informed). It is important to design a strategy applicable to the various organizational levels in the company (e.g., corporate, business unit, product group, facility, region etc.)

The milestone: a clearly defined and communicated strategy demonstrates leadership necessary for effective change within the organization. The team often recognizes that integrating sustainability into the organization is primarily a change management initiative. It is by definition a multidisciplinary subject requiring insights and inputs from a range of stakeholders within an organization.



CHALLENGES

- **CHANGE**
  How initiatives get started
  Understanding individual motivations
- **MANAGEMENT COMMITMENT**
  Bringing champions on board level by level
  Meeting their needs
- **BUSINESS CASE**
  Learning from other organizations
  Communicating benefits (cost and risk management)
- **PEOPLE**
  Getting the right people on board:
  Decision makers
  Drivers
  Listeners
  Compromisers – sensitive to politics and management's needs

SUCCESS FACTORS

- Having a clear strategy
- Gaining management commitment
- Simplifying existing procedures, decision making processes and providing tools
- Cost-effective implementation with clear ROI
- Empowering employees at all levels of organization
- Establishing accountabilities, tracking procedures and responsibility centers
- Setting realistic targets and implementing incentives
- Gaining understanding and acceptance from contractors, consultants, etc.

3. DESIGNING THE PATH

With a clear understanding of the business context in hand, along with a strategic direction focusing on the integration of sustainable design across the business, the next step is to develop an implementation plan. Sophisticated companies develop an implementation framework with a set of high level principles or value statements, clearly defined goals and objectives, some detailed activities and some key performance measures or indicators. However, a simple action plan considering cost, time, technical expertise and resources for implementation can also be successful.

When developing guidelines and procedures to implement design for sustainability into their business practice, most companies adopt tools or approaches that complement their existing management practices and business activities.

Sustainability differs from many other business issues in that it forces decision-makers to consider and give economic weight to environmental, and social initiatives that are sometimes difficult to measure in economic terms. It also extends the decision-making horizon well beyond traditional short-term profit cycles (e.g., quarterly or annual) and towards a generational model.

4. MANAGE THE CHANGE

Integrating sustainability into design is as much about dialogue as it is about tools, materials and procedures. Getting the management and staff of a particular functional area to buy into sustainable design requires an understanding of their role in the company and their internal vision as a team. Buy-in can be more easily obtained when offering a clear articulation of the sustainability strategy and an action plan relevant to their specific business activities.

Changing the right minds – slowly, one conversation at a time.

Beyond this, successful change requires financial and human resources, technical and management skills and properly placed incentives for all levels within the organization.

5. MEASURE AND MARKET THE RESULTS

After the sustainability and/or sustainable design initiative takes flight, companies can review whether the expectations and those of its customers have been met. Feedback and criticism from customers and other stakeholders are an important information source for the organization to improve its current or future products, as well as the design and development process. Companies frequently establish a set of performance indicators to assess progress over time in reducing environmental impacts in their facilities, products or services.

Demonstrated progress in integrating sustainable design initiatives can be a key element of communications with customers, adding a new dimension to the traditional four main buying criteria of cost, quality, performance and service. In the past few years there has been a noticeable shift to the recognition and value of communicating environmental and sustainability performance benefits to a range of stakeholders. These benefits might be:

Sustainable design adds value to the product by reducing environmental impacts and total cost of ownership.

Sustainability and sustainable design allow the company to manage risks and improve shareholder value in a manner that is beneficial to the customer.

Sustainable design allows us to ensure our products and the materials we use are safe to people and the environment.

Summary
The knowledge requirements for successfully designing for sustainability.

The case studies in this issue have provided evidence that innovative Canadian companies are designing environmentally benign and socially responsible products and services. They have also shown that to successfully implement design for sustainability, companies need a suite of key knowledge areas:

First, baseline information on the environmental and social impacts of your product/services – across all stages of the life cycle, from performance of materials to use profiles and end-of-life.

Second, a well-defined strategy – based on markets, competitors and regulatory trends set out vision, goals, objectives, performance measures and targets.

Third, an implementation plan detailing how to integrate design for sustainability into existing management systems in order to make these systems more effective in delivering value to the organization and its customers.

Fourth, the necessary change management skills to establish credibility, interest, buy-in and resource commitments to move design and sustainability into the core business mandate of the company.

Fifth, a deep understanding of stakeholder perspectives on performance – where are the opportunities? Where are the risks? What is the link to the business proposition?

Companies embarking on this important journey to sustainable design and green profitability may wish to make use of a design for sustainability tool box that provides guidance and decision-making frameworks for a range of business functions, from design and development, marketing and procurement. These tools may include:

- **Eco-Design** – is the integration of environmental considerations into product design and development process.
- **Life Cycle Assessment** – is a decision-making tool to identify environmental burdens and evaluate the environmental consequences of a product, process or service over its life cycle from cradle to grave.
- **Green Building Design** – refers to design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and its occupants through all life cycle phases of the building.
- **Environmental Management Systems (EMS)** – is an approach to manage an organization's environmental issues in a systematic manner that allows for continual improvement.
- **Environmental Supply Chain Management** – involves the organization of activities to address the performance of materials, components, goods and services that an organization buys and uses.
- **Sustainability Reporting** – is a means to publicly demonstrate company commitment to social and environmental responsibility and to provide information on their performance and initiatives.

With this toolbox in hand, and by following the five steps outlined above, any business can integrate economically and environmentally sustainable design practices into its existing operations.

Notes

1. This introduction taken from Nielsen, Brady, Saur, *Life Cycle Management in Linking Industry and Ecology in Canada: A Question of Design*. Cote, R., A. Dale and J. Tansey editors (forthcoming), UBC Press.

2. Dan Stienmetz BASF. Presentation to the Sustainable Enterprise Academy. May 2001.

About Five Winds International
Five Winds International is a management consulting firm that helps organizations to improve their business, environmental and social performance and the sustainability of their operations, products and services. The firm works in partnership with its clients to develop and implement the strategies, management systems, programs and tools necessary to effect long lasting and meaningful change.