

sustain

Health issue 2013

Forbo
FLOORING SYSTEMS

creating better environments

health and hypocrisy

The hidden truth about
building products,
ecotoxicity and human health...

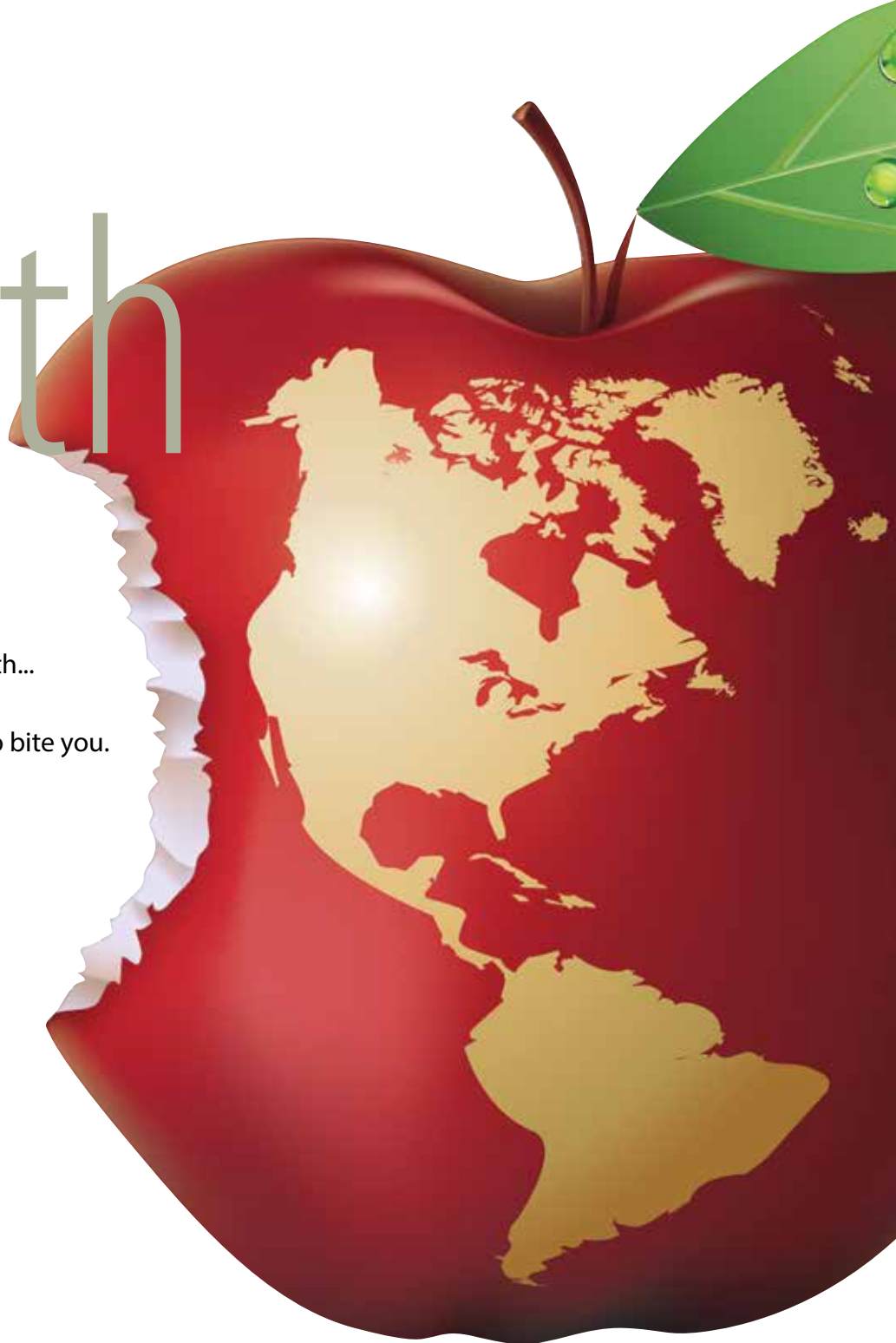
and how it can come back to bite you.

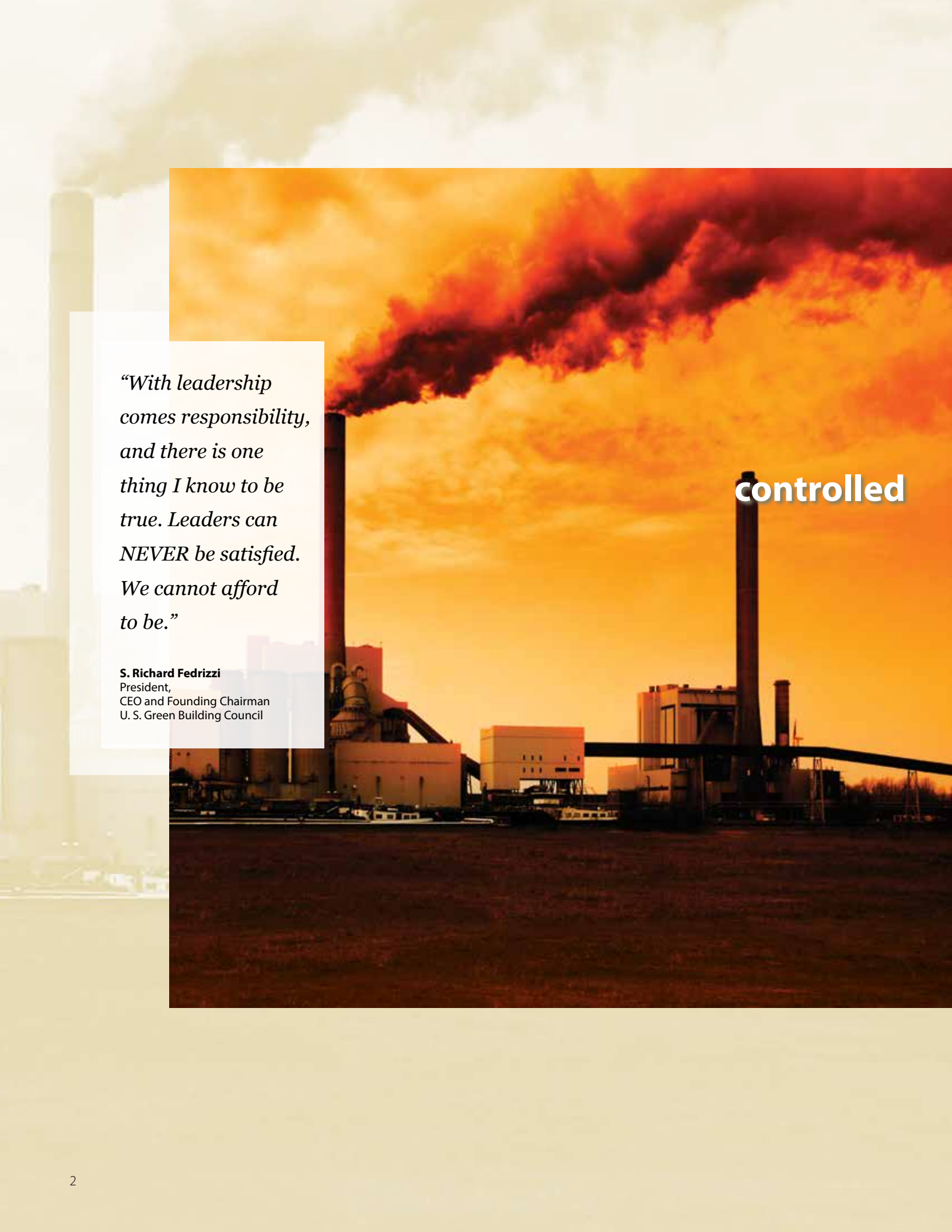
*The EPD: solution or
smokescreen?*

*Human toxicity – the
danger of doing nothing*

*An Action Plan for the
built environment*

Why Forbo is acting NOW





*“With leadership
comes responsibility,
and there is one
thing I know to be
true. Leaders can
NEVER be satisfied.
We cannot afford
to be.”*

S. Richard Fedrizzi
President,
CEO and Founding Chairman
U. S. Green Building Council

controlled

The clear danger behind Controlled Transparency

Today's architects, designers, developers and building owners have more information about the safety of building products than ever before. The tragedy is, despite this wealth of data they still aren't getting the whole truth about the environmental impact of the products they specify.

We believe this lack of knowledge is no accident. It is the result of a phenomenon we call Controlled Transparency, actively perpetuated by some within the building products industry. From the outside, these industry insiders appear to be fully disclosing information on the environmental hazards of their products. The cold, hard reality is that data is being manipulated behind the scenes to keep the full facts out of view.

transparency



Hiding the toxic twins: ecotoxicity and human toxicity

Of all the issues being obscured by this Controlled Transparency, the curtain is drawn tightest of all on issues of ecotoxicity (the harmful effects of a substance on ecosystems) and human toxicity (the potential of a substance to do harm to human life).

A surprisingly large number of companies in the building products industry would rather ignore both measures of product safety. Most disclose very little on the way their products affect the people who come into contact with them, and the natural environment that surrounds them. Many trade organizations that represent them are similarly unwilling to touch on toxicity issues.

This distressing oversight may not be altogether dishonest. It is quite likely that some of the makers of flooring, wall covering and other construction materials are afraid to take an honest look at the issue, for fear of what they'd find, on the misguided belief that what you don't know won't hurt you.

Coming soon: a ray of light

Right now, a team of construction industry experts are hard at work on a solution that promises to turn Controlled Transparency into refreshingly full disclosure. Ecologically-minded designers and construction professionals are beginning to get excited over the possibilities. On the other hand, some vested interests in the building products industry are championing a solution that keeps the old tricks of Controlled Transparency alive and well.

Who will win and how do we turn this potential solution into a working reality? The victory begins when there is a demand for transparency on the part of all the decision makers who are impacted by the built environment. Architects and specifiers need to utilize it. Developers and building owners must insist on its presence. Everyone who occupies a building needs to become aware of toxicity issues. Most of all, the public at large needs to take its blinders off and become aware of what they don't know, and how today's Controlled Transparency can have a serious effect on tomorrow's ecosystem.



FLOORING SYSTEMS

“With growing production and growing consumption, not to address the health impact of chemicals in our environment is more than simply unwise, it is insane.”

Dr. Lauren Heine, Ph.D.
Consulting Co-Director,
Clean Production Action
Director, GreenScreen Program
Principal, Lauren Heine Group LLC

The Environmental Product Declaration (EPD): solution or smokescreen?

The green building industry has a long history of responding to environmental concerns with practical solutions. Unfortunately, the industry also has an extensive track record of caving in to pressure from various manufacturers who fund it.

LEED (Leadership in Energy and Environmental Design) was a great step forward in improving the green

solution or smokescreen?

EPD

performance of buildings, and there are high hopes for the new LEED v4 soon to debut. Unfortunately, the LEED rating is a voluntary system rather than a required standard. Under the structure of LEED, a specifier is free to avoid issues of ecotoxicity and human toxicity. They may choose to focus on environmental credits that are easier to attain, without losing the status of LEED certification. If human health and toxicity are important, shouldn't these disclosure credits within LEED be prerequisites rather than options?

LEED has been a powerful tool for market transformation, and it isn't entirely to blame for the lack of environmental commitment on the part of specifiers or end users. Its existence proves one point beyond the shadow of a doubt: Greenwashing will continue to be alive and well as long as we allow it.

| Toxicity Facts | |
|----------------------|---------------------|
| Campus Size | 25 Buildings |
| Building Size | 150,000 sq. ft. |
| Amount Per Building | |
| Toxicity | Danger Level 4 |
| | % Daily off-gassing |
| Total Eco-Toxicity | |
| | 34% |
| Lead-based paint | 36% |
| urea formaldehyde | 17% |
| Total Human Toxicity | |
| Body Absorption | TBD |
| Off-Gass Inhalation | TBD |

The builder's nutrition label

Many in the green products industry were excited about a recent development that appeared to promise an encouraging step forward. The Environmental Product Declaration (EPD) is a standardized tool used to communicate the environmental performance of a product. It works in the same way that a nutrition label on a food product informs us about the fat, sugar and cholesterol in the foods we eat.

In theory, the EPD should help industry professionals make reliable judgments on the environmental impact of the products they specify. Similarly, a building's owner or occupant should be able to use EPD information to gain assurance that the interior spaces they own or occupy are healthy ones.

Unfortunately, reality can fall short of the ideal. Some major manufacturers have used loopholes within the standard to cover up toxicity issues connected with their building products. This avoidance of disclosure could have serious consequences for humans and the natural environment.

The specifications shell game

The loopholes in the EPD for flooring products are subtle, but chillingly effective. They were created by manipulating the data requirements for Product Category Rules (PCR), the technical documents from which EPDs draw their information. Some industry insiders have created their own PCRs which remove measures of ecotoxicity and human toxicity, rendering the resulting EPDs toothless. They justify their efforts on the debatable claim that insufficient data exists to apply life cycle assessment to these impact categories, arguing that emissions testing is the only way to measure human health impact. While the debate rages, products like PVC flooring and rubber flooring go to market with a clean environmental bill of health, which falls far short of the truth.

This cover-up will continue unless the people who specify interior finishes demand something better and the people who must live with toxic products stand up and do something about it. As any product manufacturer knows, stakeholder demand is the most powerful change agent in any industry.

Some industry insiders have created their own PCRs which remove measures of ecotoxicity and human toxicity, rendering the resulting EPDs toothless





Ecotoxicity and Human Toxicity: the danger of doing nothing

Ecotoxicity and human toxicity are broad and complex issues. They aren't always easy to categorize or inexpensive to quantify. For these reasons, it is tempting to simply deny or ignore them.

Unfortunately, denial and ignorance have become the most popular options in the built environment. Both can improve the look of a balance sheet, as long as it is

Many companies have no problem recalling them, due to the fact that they are still paying the astronomical costs of abatement and legal liability. The business consequences were disastrous for the product manufacturers, and the consequences were equally staggering for the architects, specifiers and building owners who unwittingly put these toxic products to use.

- Huge costs of abatement, multiplying with every new remodeling

priorities

Ultimately, it comes down to a matter of personal priorities. What will be your legacy; missed opportunities, or human health and ecological sustainability?

possible to use Controlled Transparency to keep customers in the dark. Pretending the issue doesn't exist can sometimes seem to be a fairly effective marketing strategy.

The evidence of history proves otherwise. The construction industry can point to plenty of instances when looking the other way yielded a short term benefit that set the industry up for a long term disaster.

Fond memories of asbestos

Remember the good old days of asbestos, lead-based paint and urea formaldehyde insulation?

- Crippling lawsuits due to exposure, even from employees who have long since retired
- The emotional toll of knowing that your action jeopardized innocent co-workers
- The genetic legacy of exposure to generations yet unborn

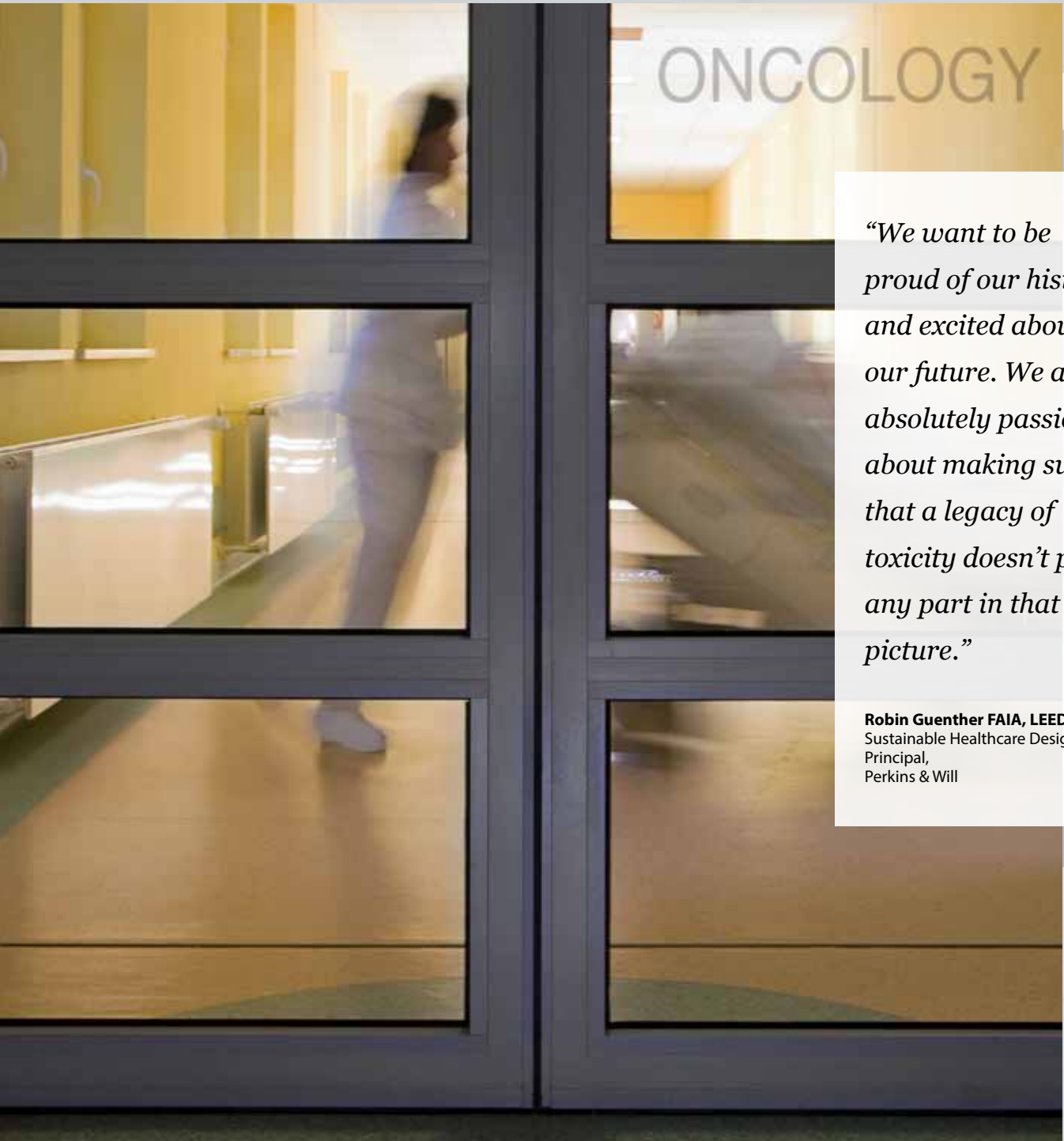
Had we only known the effects... and reacted when the risk was identified... these disasters might have been averted.

Taking the ostrich defense

Some would call it good corporate public relations to minimize the environmental concerns connected with your product. Cigarette manufacturers did it for decades. Executives who live or die by this quarter's profit figures find it tempting to bury their heads in the sand, rather than introduce safer alternatives that might cost more in the short run.

1970 the risks of asbestos exposure were first identified

1989 first regulatory actions were taken to address the issue




ONCOLOGY

“We want to be proud of our history, and excited about our future. We are absolutely passionate about making sure that a legacy of toxicity doesn’t play any part in that picture.”

Robin Guenther FAIA, LEED AP
Sustainable Healthcare Design Leader
Principal,
Perkins & Will



FLOORING SYSTEMS



“What we’d really like to see happen in the future is to have universal disclosure of the contents of all building products and have that information made available to people in easily usable formats.”

Bill Walsh

Founder and Executive Director,
Healthy Building Network
Source: HBN A Voice for the People

health product declaration

The HPD and the dawn of clear transparency

A group of leading architects, building managers and product manufacturers have banded together to create a whole new standard for product hazard reporting that responds more responsibly to concerns of human health and environmental toxicity.

The new standard is called the Health Product Declaration (HPD), and it represents a major step forward in transparency that:

- Incorporates the data from the EPD, combining it with trustworthy, verifiable measures of ingredients that impact ecotoxicity and human toxicity
- Creates a disclosure document that truthfully indicates the toxicity impact of a product on the people who live with it, and the natural environment that it exists within
- Uses an open-source approach to deciding which criteria are included, placing decision making power in the hands of architects, specifiers and others without a vested interest in the outcome

Best of all, the HPD will create a single standard that can be used to create an apples-to-apples comparison of products based on their ingredients and comparative health hazards.


Everyone is part of the solution

The true beauty of the HPD is its ability to be impartial, while also addressing industry concerns about the fairness of standards. Because the HPD is an open source standard, no individual can unduly influence it. Radical environmentalists cannot, and neither can industry insiders with a status quo to protect.

Industry professionals can have input in shaping the standard to keep it practical and fair.

Admittedly, it is difficult to measure the absolute potential for future toxicity without a crystal ball. But if judgments must be made, it is a far better idea to have everyone in the product safety equation at the table sharing all the information available. It is far better for human health and our natural environment as well.





“When you look at it in the short run, taking a stand on issues like health and ecotoxicity can be scary. But, I’d urge you to take a long run view. It’s a tremendous opportunity for your work to have a real impact on people’s well-being.”

Mark Rossi
Co-director/Co-chair,
BizNGO

The manager in the mirror: your personal sustainability action plan.

No matter what role you play in the design, construction or real estate management industries, you have a role to play in improving the future of the built environment and the living things that share our world with it. By taking a few simple steps, you and other professionals like you, can promote an environment of healthy transparency and create a more sustainable world for future generations.

improving the

future

Step 1: Insist upon full disclosure

If you specify building materials, demand the information found in both the EPD and the Health Product Declaration. Ask for full transparency. If your request isn't met, ask why. Are you on the manufacturing side of the equation? Advocate for greater transparency. Your career and your company's future could someday depend on it. Owners or lessors of buildings can make transparency and product toxicity a criteria in purchasing or leasing decisions.

Step 2: Ask yourself the tough questions

Before you make a decision on a material, be willing to consider all the ways it could contribute to a healthy environment:

- Is it sourced from sustainable materials?
- Is it designed to minimize construction waste?
- Does it emit compounds that might impact human health?
- Are excessive amounts of energy or scarce raw materials used in its creation?
- Can it be safely removed and naturally recycled at the end of its working life?

- Will its performance attributes contribute to a more energy efficient, healthy living space?
- Is it a sustainable product, or a product with sustainable attributes?

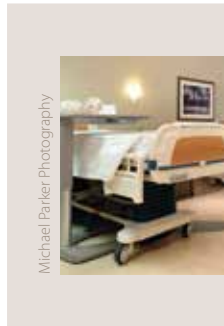
Step 3: Be an advocate within your industry

By willingly speaking to others in your company about the need to pay attention to ecotoxicity and human toxicity, you can use your influence to spread the word. Be willing to network with your colleagues in other firms about the issues, and work to create an ongoing dialog. Ramp up your commitment by making your voice heard in industry forums. Get involved in trade or professional organizations to advance the goal of transparency. Consider getting in the ongoing effort to establish effective standards.

A great place to start is www.hpddworkinggroup.org

Truly making a difference takes courage. It also requires that we keep our eyes open, even if closing them seems more attractive. Our reward comes when we see what we've accomplished in the long run, as we look with pride on a new generation of industry leaders who live without the toxic legacy that has plagued our industry in the past.

Google just gave the U.S. Green Building Council \$3 million to do research on human health and buildings



“LEED is an important milestone, but it’s only part of the journey to market transformation. We won’t settle for anything less than the best for human and environmental health.”

Tim Cole
Head of Sustainability,
Forbo Flooring Systems
Past Chairman, US Green Building
Council Board of Directors



environmental



creating better environments

Compliance Plus – the Forbo standard

We are eager to see implementation of the new disclosure credits in LEED V4 and the new Health Product Declaration. We are encouraged by the groundswell of demand for greater transparency in the built environment. The requirement for having an EPD and HPD does not yet exist, but Forbo has decided not to wait. We are introducing a new edition of EPD documents on our flooring products, and each contains an addendum that approximates the new HPD standard as closely as it possibly can.

This willingness to go beyond government regulations and requirements is part of a long-standing Forbo commitment we call Compliance Plus. It's an initiative that includes sharing complete Life Cycle Assessment data with our stakeholders and not simply complying with the requirements of the industry PCR.

LCAs allow decision-makers like you to assess our products' environmental impact from beginning to end...from extraction of its raw materials to safe recycling or

composting of the product after its useful life is over. Complete transparency is our goal, both in our own products and as an advocate in our industry worldwide. It's all a part of striving for the highest standard: the ultimate betterment of the environment in which our products exist, and the best possible outcome for the people, plants and animals with which they live.

commitment



*As the host USGBC Chapter for GreenBuild 2013, the Delaware Valley Green Building Council created the 2013 Challenge Pledge. Forbo has pledged to have EPDs and HPDs for all its flooring products. Will you join us?
<http://dv gbc.org/2013-challenge>*





**Our passion:
Progress that Pays.**

It's our bottom line belief that creating change is good. Creating positive change that is truly sustainable is even better.

The people of Forbo are eager to see real and credible growth in environmental stewardship. On the other hand, we know that the only type of progress that endures is the

environmental



“We are all in business to make money, but we live for the chance to make a difference.”

Denis Darragh
General Manager
North America,
Forbo Flooring Systems

type that also makes practical economic sense for all.

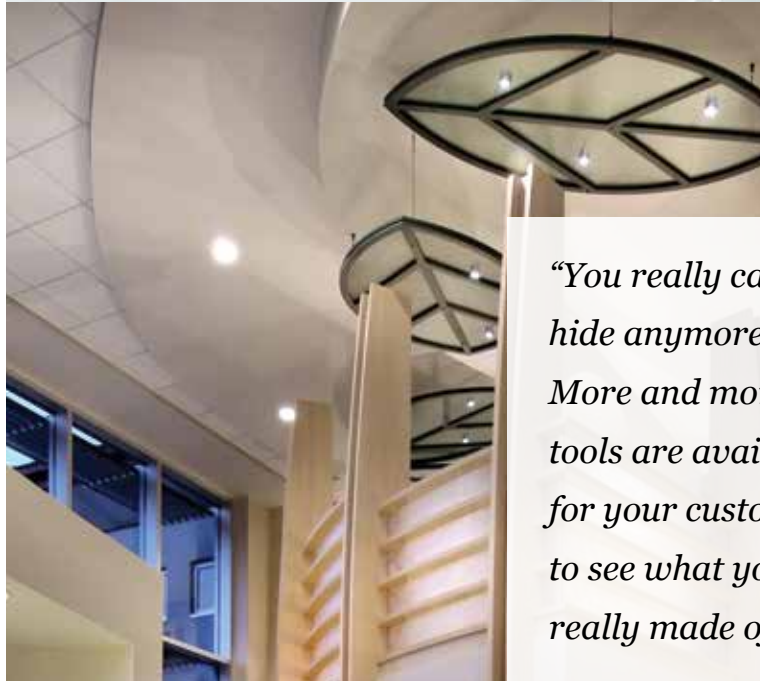
We believe sustainability shouldn't need to cost more. We strive every day to create products that improve your environment, while also improving your profitability and improving the quality of human life. These are the three pillars that define sustainability.

Experience teaches us that losing sight of any of these goals will be a step backward when it comes to the benefits that really matter: the long term health of our industry and the welfare of our children, our grandchildren and many more generations yet to come.

Join us in the quest to make a difference.

Start by visiting our web site at forboflooringna.com/Environment/truth

truth



“You really can’t hide anymore. More and more tools are available for your customers to see what you’re really made of.”

Bill Walsh
Founder and Executive Director,
Healthy Building Network
Source: USGBC 2012
Leadership Award Video



Alexander Patho Photography



“It’s important to stop and think... will I someday be proud of this?”

Dr. Lauren Heine, Ph.D.
Consulting Co-Director,
Clean Production Action
Director, GreenScreen Program
Principal, Lauren Heine Group LLC



Fred Gerlich Photography



FLOORING SYSTEMS

Forbo Flooring Systems is the global market leader in commercial floor covering solutions. Marmoleum, our flagship brand, owns a global linoleum market share of over 60%, while Flotex is the industry leader in the rapidly growing flocked textile market. In addition to linoleum-based products, Forbo develops, manufactures and markets a diversity of high quality vinyl and textile floor coverings, as well as Coral & Nuway entrance system solutions.



FLOORING SYSTEMS

North American Headquarters
Forbo Flooring Systems
8 Maplewood Drive
Humboldt Industrial Park
Hazleton, PA 18202
T: 1-800-842-7839
570-459-0771
F: 570-450-0258
email: info.na@forbo.com
www.forboflooringNA.com
www.floorcostcomparison.com

Canada
Forbo Flooring Systems
111 Westmore Drive
Toronto, ON M9V 3Y6
phone: 1-800-268-8108 (English)
1-800-567-9268 (Français)
fax: 1-877-893-4680
email: info.na@forbo.com
www.forboflooringNA.com
www.floorcostcomparison.com



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