

Environment 2010



## President's Message

### At The Tipping Point

After many years of debate in North America about energy conservation, sustainability and environmental responsibility, I believe that we are at a tipping point. The shift from intention to action is finally occurring. I'm convinced that, going forward, we are going to witness a sea change in attitudes and priorities. Changes that will result in a remarkable transformation of residential and commercial building practices. I am very excited about the possibilities, not only for Roxul, but for everyone on the planet.

This year's Environmental Report is full of examples of how things are changing for the better. It also includes evidence that these changes aren't costly at the building stage. Moreover, they save money on operating costs, dramatically reduce energy use and, perhaps best of all, create better living and working environments for people. And it's especially gratifying to see the LEED® certification system gaining real traction amongst architects and contractors – not because they've been forced into it, but because it really works!

I'm also very proud of the fact that Roxul has always played an integral role in championing the energy efficiency message across North America. From the LEED platinum-certified Olympic Village in Vancouver, to Kroon Hall at Yale University, which was voted the 4th best Green Project in the U.S. in 2010, Roxul products are proving their value. Our active support of new legislation as a member of NAIMA and founding member of the Council of NAIMA, and our involvement on the Canadian and U.S. Green Building Councils, are just two examples of how Roxul people are helping lay the foundation for North America building practices that are more planet-friendly.

The technologies aren't new. The products and materials have been available for years. What has changed is the will to bring them all together and make it happen. As I read this year's Environmental Report, I can't help but feel optimistic about our future.

I hope you do too.

Sincerely,



Trent Oglivie  
President, Roxul Inc.  
2010 Environmental Report



# Roxul Helps Lead the Charge to Planet-Friendly Buildings

The move to more energy efficient and sustainable building practices first requires significant changes in perceptions and behaviors – even amongst building industry professionals. The gap between reality and their perceptions on the subject was made abundantly clear in research conducted by The World Business Council for Sustainable Development.

*Drawing on input from building professionals in eight countries, including the U.S., the research revealed:*

> **Overall, the participants significantly understated the amount of CO<sub>2</sub> emissions they believed to be generated by buildings.** The average estimate was 19% of total CO<sub>2</sub> emissions (12% in the U.S.) when, in fact, buildings contribute about 40%;

> **The participants believed the cost of building an energy-efficient structure was significantly higher than a conventional building.** On average, they estimated there would be a 17% premium – when in reality, it would be less than 5% in developed countries.

As an active member of the North American Insulation Manufacturers' Association (NAIMA), the U.S. Green Building Council (USGBC) and the Canadian Green Building Council (CaGBC), Roxul is a leader in the drive towards sustainable buildings in North America.

## Roxul Roof Insulation Growing in Popularity

An ever growing number of roofing professionals are recognizing the value of Roxul roofing insulation both in terms of its recycling potential and true long-term thermal performance.

According to a report prepared for the Athena Institute, more than **80%** of re-roofing projects consist of **total removal and replacement**. That generates over **920,000 metric tonnes of waste** and a large piece of the load is non-recyclable rigid foam insulation products. Unlike rigid foam and polyiso insulations, **Roxul is 100% recyclable**. Roxul roofing insulation installed today has the potential to be completely recycled when removed, taking enormous pressure off landfill sites across North America down the road.

### Stable, Gap-Free Performance

Roxul roofing insulation is dimensionally stable and **doesn't shrink** – so there are **no gaps**. Unlike polyiso insulation panels, which shrink and lose R-value due to off-gassing, Roxul's thermal performance remains consistently high over the lifespan of the roof. Roxul insulation maximizes energy efficiency and minimizes energy loss and HVAC costs.

## Future Recycling Opportunities Start at the Top

**1,400**

There are approximately 1,400 square miles of low-slope roofing in the U.S – an area the size of Rhode Island.

**340,000,000**

It's estimated that over 340 million square feet of re-roofing was undertaken in the Industrial/Commercial/Institutional sector in Canada alone.



Roxul TopRock® is installed in new Rolls-Royce Aerospace Facility in Prince George County, Virginia, USA

# Green Manufacturing REPORT CARD

Using Roxul insulation products is one of the most cost-effective ways to make homes and buildings across North America more energy efficient.

But the company's commitment to the environment goes beyond the benefits of the products themselves. It extends to the way the insulation is made, as well. Roxul's newest manufacturing facility in Milton, Ontario utilizes state-of-the-art technologies to eliminate waste, reduce energy consumption and minimize the company's impact on the planet in five critical "green" areas.

## 1. Recycling and Waste Reduction

- ✓ The new plant has an innovative recycling system that turns all production waste into new raw materials to be reused in the process.
- ✓ Roxul insulation now contains up to **64% recycled materials**.
- ✓ The facility **recycles over 99%** of its production waste, which dramatically reduces the impact on local landfill sites.

## 2. Water Conservation

- ✓ Water used in the manufacturing process is collected and reused for production.
- ✓ Storm water from the plant site is also collected and used in the production process.
- ✓ This significantly reduces the amount needed from municipal drinking water resources.

## 3. Energy Efficiency

- ✓ Heat generated during our production process is captured and recycled throughout the factory and warehouse for warmth during cold weather.
- ✓ Energy efficient lighting has been installed throughout the facility.

## 4. Lower Vehicle Emissions

- ✓ A strict no-idle policy for trucks and other vehicles at the facility minimizes exhaust emissions.

## 5. Air Quality

- ✓ Roxul uses advanced emission control technology to ensure manufacturing emissions are lower than the air quality standards set and regulated by the Ontario Ministry of the Environment (MOE).

In all instances, the Roxul facility is significantly below MOE (Ministry of the Environment) levels.

## HOME STAR in the Home Stretch

The HOME STAR Energy Retrofit Bill has been passed by the U.S. House of Representatives and is currently before the Senate. This landmark legislation calls for the establishment of a voluntary, incentive-based program that will help create jobs, save homeowners approximately \$200 to \$500 on their energy bills, and help the environment by reducing energy consumption.

HOME STAR will provide two types of incentives:

- **SILVER STAR** provides rebates for specific energy-saving investments such as improved insulation, window and door replacement and air sealing.
- **GOLD STAR** offers incentives to conduct home energy audits and then implement measures designed to provide greater total returns in energy savings.

As a member of the North American Insulation Manufacturers' Association (NAIMA), Roxul has been actively involved in the push for increased energy efficiency and a strong supporter of this important legislation.



## BUILDING STAR On the Horizon

Roxul is also an active supporter of the BUILDING STAR program – sister program to HOME STAR aimed at commercial buildings. It would offer small businesses and building owners rebates and low-interest financing options to help offset the cost of energy-saving measures such as improved insulation and high-efficiency heating.

If passed, it is projected to save building owners more than \$3 billion on their annual energy bills, and reduce peak electricity demand by 33,300-megawatts. From an environmental perspective, it is projected that BUILD STAR could help reduce U.S. emissions by 21 million metric tonnes.



# LEED® = ROI:

## Certified Buildings are a Smart Investment

There's a growing body of evidence supporting the financial benefits of "green" buildings:

- Cost-benefit analysis on ten buildings recently awarded LEED® certification shows **an average ROI of 29%** for green investment.
- Managers of LEED® certified buildings regularly report **energy and water savings between 30% and 50%** over their non-certified counterparts, resulting in major operational cost savings.
- A survey done for Collier's International revealed that

**63% of tenants** said they would be willing to **pay a premium** to occupy green space, with **14%** willing to pay more than **10% extra**.

- Case studies demonstrate that employees who work inside the buildings report **greater workplace satisfaction**, specifically identifying sunlight, views of nature, and heightened thermal and acoustic comfort. Employers also note a **significant drop in absenteeism**.
- Studies have shown that green buildings add between **\$20 billion and \$160 billion** in **increased worker productivity** every year.

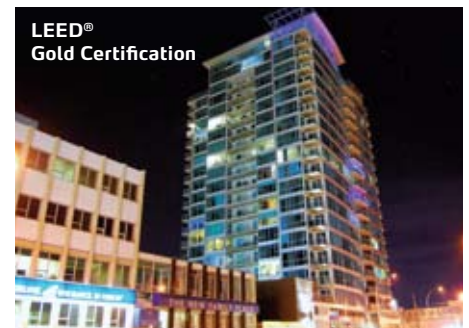
## Roxul LEED® Success Stories



### **Kroon Hall, Yale School of Forestry & Environmental Studies, New Haven, Connecticut, USA**

Kroon Hall is a 66,818 sq. ft. complex on the campus of Yale University that houses offices, classrooms, and an auditorium. Roxul insulation was a natural choice for the roof and cavity wall.

The innovative building, which earned Platinum level LEED® certification, uses 58% less energy than a comparable baseline structure. The project was voted #4 of the top 10 Green Projects for 2010 by *Environmental Building News*.



### **Bankers Court, Calgary, Alberta, Canada**

Bankers Court is a 15-storey, 268,525 sq. ft. building in downtown Calgary. Roxul product contributed credits towards the Gold certification in all four LEED® categories – Energy & Atmosphere, Materials & Resources, Indoor Air Quality, and Innovation & Design Process.

# Roxul Helps Vancouver Olympic Village Become one of the **GREENEST** On Earth!



Photo courtesy of vancouver.ca

The Athlete's Village built for the **2010 Vancouver Olympic Games** was designed to epitomize green building practices and sustainable living. Not surprisingly, Roxul insulation played a significant role in the project.

Approximately **290,000 square feet** of **Roxul CavityRock®** was chosen to insulate exterior walls based on its superior water resistance, fire-resistance, and long-term thermal performance. While CavityRock comprised the majority of Roxul insulation used in the Village, **Roxul AFB®** and **RockBoard™** were also incorporated.

In February of this year, the Village received **LEED® Platinum Certification** for the entire neighborhood, as well as **LEED® Gold Status** for all of the buildings. It is only the second neighborhood to receive Platinum Certification leading some to dub it "the greenest neighborhood in the world".

The Athlete's Village represents the first phase of a much larger development – Southeast False Creek (SEFC). When fully

## The Athlete's Village features:

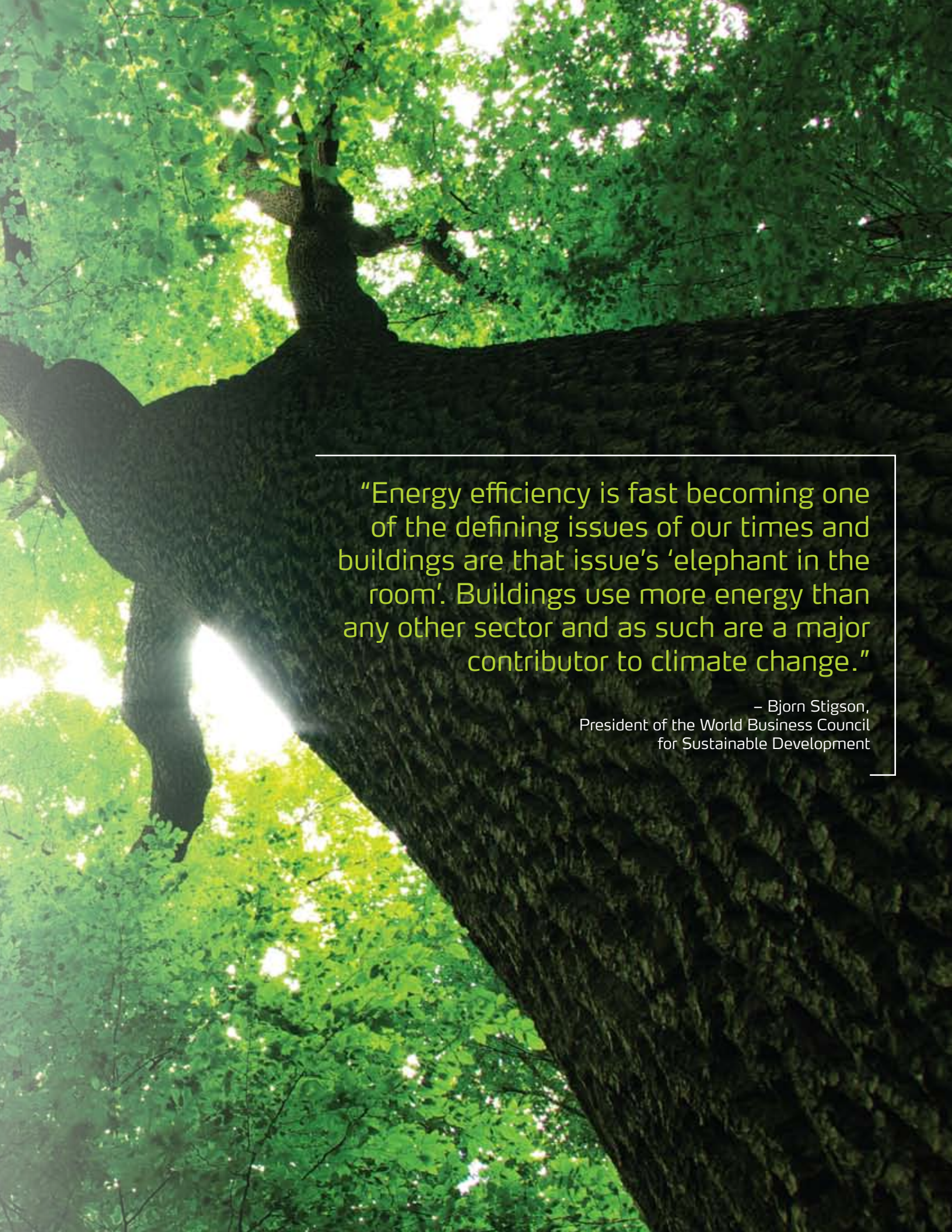
- Super energy efficient residential units;
- Close proximity to the city center;
- Renewable energy heating system; and
- Net zero energy building.

developed, it will have **six million square feet** of development and be home to **16,000 people**. SEFC represents one of the most progressive and sustainable developments in North America, and Roxul insulation products will continue to play an integral role as the entire development takes shape in the coming years.



## Did You Know?

- > **40%** of all energy consumed is used in our buildings – and up to **30% of that total is wasted**.
- > In as little as **2.5 years**, a conventional commercial building may consume more energy than was required for material production and construction – combined!
- > Total annual **energy costs** for U.S. commercial buildings – **\$107.9 billion**.
- > Over the next two decades, commercial building **floor space** is expected to reach **103.3 billion square feet** – a **44% increase** over current levels.
- > Together, Canada and the US account for only **5.5%** of the world's population – but **produce 27%** of the world's **greenhouse gas emissions** and **use 50% of the energy** consumed by the world's richest nations.
- > Insulation is a readily available technology and the **most economical** approach to reducing the energy consumption by buildings, homes and other structures.



"Energy efficiency is fast becoming one of the defining issues of our times and buildings are that issue's 'elephant in the room'. Buildings use more energy than any other sector and as such are a major contributor to climate change."

– Bjorn Stigson,  
President of the World Business Council  
for Sustainable Development

**ROXUL**<sup>®</sup>  
The Better Insulation<sup>™</sup>

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