



# PROMOTING RESILIENT HOMES

**The intensity and frequency of severe weather events is increasing globally. Concentrated population growth is also rising – particularly in areas which are more weather disaster prone. Can the insurance industry positively influence social developments to promote safer living? I believe it can and should play a crucial role in this regard.**



By Paul Kovacs,  
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Catastrophic Loss  
Reduction

**E**arlier this year I spoke at the pre-conference meeting of the 62nd national conference of the Canadian Home Builders' Association (CHBA). I challenged the home construction industry to partner with Canadian insurers to design and build disaster resilient homes. Through the Institute for Catastrophic Loss Reduction (ICLR) we are setting out a strategy to confront the rising disaster damage to homes. Our program will be based on research, public education and partnership. This ambitious program is called "Designed...For Safer Living".

## RISING DAMAGE

Last year, we witnessed images of devastation and damage to homes and property as four major hurricanes cut a swath across Florida. Then, a major tsunami struck in south Asia. Four storms within such a short period of time, combined with the immense destruction of the tsunami bears testimony to the scientific evidence that extreme weather incidents have increased in frequency and severity.

We are experiencing an increase in the intensity and frequency of severe weather events. During the 1990s, natural disasters killed more than 650,000 people and caused more than Cdn\$1 trillion in damage around the globe. Disaster damage has been doubling every five to seven years since the 1960s – an alarming international trend that last year saw claims exceeding Cdn\$50 billion worldwide.

Recent Canadian severe weather events include hurricane damage in Halifax, wildfire damage in Kelowna and extreme rainfall events in Edmonton and Peterborough. The international scientific community is predicting that the situation will get more severe going forward. If this trend continues, insurers around the world will face a US\$1 trillion in damage claims over the next 15 years. This is an alarming trend – one which is not sustainable and has to be confronted.

## BETTER HOMES

Will the frequency and severity of storms stop increasing? The answer is no. The ICLR asked seismic and climate experts about hazard risks over the next fifty years. Seismic risks are stable, but more people are moving to vulnerable areas. The frequency and severity of

damaging storms is increasing, and, again more people are moving to vulnerable areas.

Will insurance companies restrict damage coverage? Perhaps. The insurance industry must address this issue. It could transfer the problem, but the industry would prefer to find durable solutions to the problem of rising disaster damage to Canadian homes. Restricting coverage is an option, but not a solution.

Will homes be more resilient to damage from the hazards expected over the next fifty years? This is the critical

question, and the answer needs to be yes. The knowledge exists to design and build safer homes, and this would be a solution to the problem. As such, the ICLR and its member insurers are working to promote the construction of better homes – disaster resilient homes, homes designed for safer living.

The insurance industry is committed to support the construction of better homes – houses designed to be resilient to the local weather conditions that we have experienced over the past 50 years, and to the anticipated climate for the next 50 years to come.

## DISASTER RESILIENCE

The “Designed...For Safer Living” program represents an adaptive strategy to deal with the increasing frequency and severity of extreme weather events. The program has key three components:

- Safety research;
- Informed homeowners; and
- Resilient new homes.

**Safety research.** Our member insurers have begun to invest in a long-term, science-based research program that identifies best practices for the design and construction of new homes. Through the ICLR, insurers have provided support to dozens of academic researchers who are working to identify best practices. This research deals with damage from wind, snow, ice, earthquakes, mould and a range of other hazards.

Our largest investment has been to support the “Three Little Pigs” project at the University of Western Ontario.



Coupled with the “Boundary Layer Wind Tunnel”, Western has established a world-class research team and facility capable of testing full-scale wood framed houses under extreme loading.

Canada’s insurers provided seed money to the project and the team levered this into \$8 million to construct a state-of-the-art research facility. Dr. Mike Bartlett and his research team can test scale model homes in the wind tunnel, then test identical extreme load events on full-scale homes. These research facilities are unique in the world today.

We expect that the research team will identify aspects of over-engineering in current home construction practices,

areas where savings are possible without any compromise in safety. At the same time we also expect they will identify additional design and structural elements that go beyond the current building code – that would significantly enhance safety at minimal cost. This loss prevention research program will provide a science-based foundation for the construction of disaster resilient homes.

Canada’s insurers will use this research to shape the details of our safer living program. We also expect that home builders, the manufactured home industry, manufacturers and others in the home construction industry will want to be active participants in the “Three Little Pigs” research program. Cost effective improvements in disaster resilience should be jointly determined and founded on science-based research.

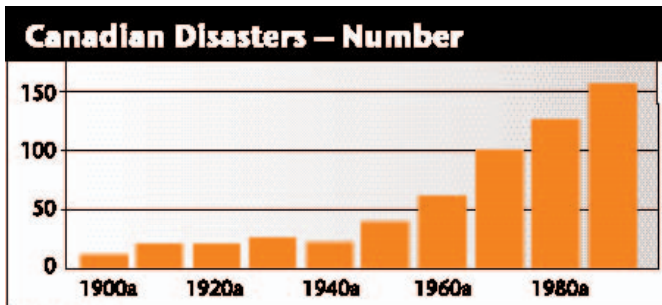
**Informed homeowners.** The second part of our safer living program is education. We will inform homeowners about disaster resilience. Working through the ICLRe, Canada’s insurers are the only group in the country providing comprehensive disaster loss prevention advice to homeowners. We have identified actions that homeowners should take to reduce the risk of injury and damage due to severe wind, hail,

linked to the ICLR’s website (the institute’s website is has proven popular with Canadian homeowners with more than one million people visiting it every year).

Each spring Canada’s insurers also retrofit an existing home to make it more resilient to local hazards. We work with the media to share this knowledge with other homeowners. In 2003 we made a home in London more resilient to tornadoes. Last year we made a home in Halifax more resilient to hurricanes. This year we will provide a seismic safety retrofit to a home in Vancouver.

Canada’s insurers are committed to informing homeowners about disaster loss prevention, but we recognize that our efforts need to go further. That is why we have invited Canadian home builders to partner with us to promote disaster safety.

**Resilient new homes.** The third part of our program will be to promote the construction of new homes that are disaster resilient. The safer living program specifies construction, design and landscaping guidelines to increase a



Source: ICLR

earthquakes, flood, wild fire and a number of other hazards. Many member insurance companies send this safety information to their policyholders. Others have loaded this information onto their Internet websites, or have

new home's resilience to natural disasters. The program adds protection to windows and doors, provides better connections between the roof, walls and foundation. It also ensures that the roof is thicker, stronger, and designed to stay drier.

Our sister organization in the U.S. – the Institute for Business and Home Safety (IBHS) – developed the safer living program with insurers and the American home builders. The program has got off to a great start south of the border and we hope to experience similar success here.

### **PARTNERSHIP BENEFITS**

There are two key elements to the ICLR's safer living program. The institute will first identify cost effective design and structural elements that must be included in a new home in a specific location, and second, we will conduct an independent inspection of the build. Homes that include these design features can be designated as

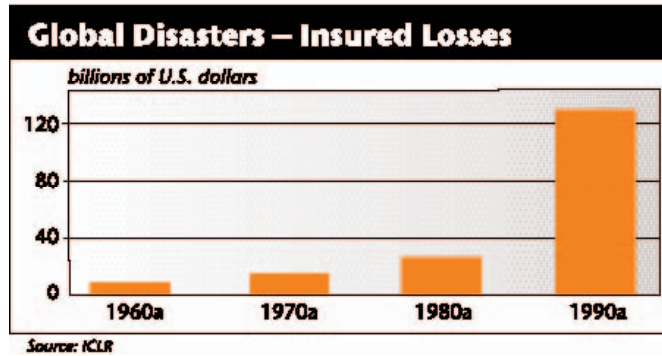
safer living homes, and this designation will be registered.

Bear in mind that this is a new program. There are features that still need to be determined with insurance

for success in Canada. It will take time to build consumer interest in the Canadian market and to finalize implementation details, but I am confident that we have the perseverance to make this important

program work.

I am particularly proud that some of our member insurers have decided to take the lead, and have agreed to fund the construction the first of Canada's safer living homes. Insurers occasionally receive claims where a home has suffered catastrophic damage and



and home builder partners. A key goal is to work with home builders to provide affordable and independently verified property protection that homebuyers are looking for. Builders can make new homes more resilient to nature's perils and give homeowners the increased peace of mind they seek.

Home builders in the U.S. have been pleased with the safer living program. This provides us with a solid foundation

it must be completely rebuilt. This year member insurers will rebuild several of these homes to the safer living standard. Participants include Co-operators General Insurance Co. and State Farm Insurance Co. Some other insurers may elect to help launch the program. These insurers will go beyond their contractual obligations to build disaster resilient homes, homes designed for safer living. 