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CAT TALES

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Institute for Catastrophic Loss Reduction

Building resilient communities

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How emergency generators can help reduce insured losses

Emergency generators not only temporarily provide electricity during a power outage, but can also mitigate property damage and help reduce insured losses, says a new publication from the Institute for Catastrophic Loss Reduction (ICLR).

These generators can help reduce insured losses by preventing the freezing and bursting of pipes in winter, keeping sump pump systems operational during outages and by preventing business interruption claims, to name just three examples, ICLR managing director Glenn McGillivray told Canadian Underwriter. Emergency generators are also useful year-round, when power supplies are disrupted from extreme wind, winter storm (including ice storms) and when supplies are disrupted for technical reasons.

The problem, McGillivray said, is that people tend to run out and buy a generator just prior to or during an emergency. "So they grab whatever is available and hope for the best," McGillivray said. "Really, though, a fair bit of research should go into the purchase. And people should consult experts, and not just the person working down at the big box store."

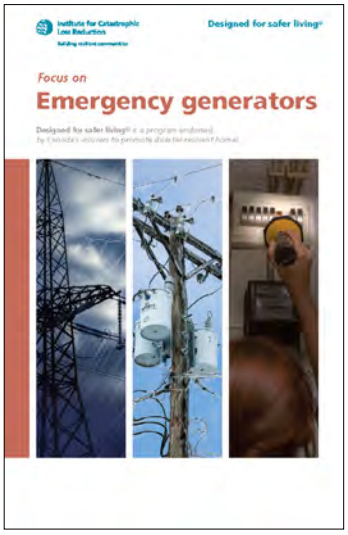
For brokers, they can highlight the upsides and downsides of emergency generators and advise clients who are interested to first do their homework. "The best time to buy a generator is when the sky is blue and everything is okay. Then you can take your time and make the right purchase," McGillivray said. >

Released January 6, the report *Focus on emergency generators* highlights key features to consider (such as automatic start and low-oil shutoff), how to choose the right unit and installation considerations.

According to the publication, Ontario had the most reported outages between 2015 and 2017 (135 in 2015, 162 in 2016 and 177 in 2017), followed by British Columbia (56 in 2015, 83 in 2016 and 83 again in 2017).

In November 2018, the Canadian Press reported that the number of storms requiring a response from BC Hydro repair crews has tripled since 2013. The number of customers affected by an outage also jumped from 323,000 in 2013 to nearly 1.2 million last year.

"I think it is important to underscore that severe weather events appear to be more common, and will almost definitely worsen in the years ahead," McGillivray said. "At the same time, our power infrastructure is in rather poor condition and getting worse as time goes by. These two things, coupled with society's growing dependence on electricity, means that disruptions in power supplies will only become more common, longer and more disruptive and costlier."



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Thank you to author Jason Contant, Online Editor for Canadian Underwriter, for kind permission to reprint this article.

The winds of claims: 2018 a bad year for wind losses

By Glenn McGillivray, Managing Director, ICLR

In some years, it's water. In others, it's wildfire or hail. This year, it was extreme wind that stood out as a major driver of insured catastrophic loss in Canada.

Indeed, just two events – the May 4 Southern Ontario/Quebec windstorm and the September 21 tornado sequence in the National Capital Region caused well over $800 million in insured losses, based on public numbers compiled by Catastrophe Indices and Quantification Inc. (CatIQ has since updated the totals. If you do not have a subscription, contact the company for details). When claims adjustment expenses are added, the pair of events left the industry with close to $1 billion worth of cheques to write.

Wind also figured into several other smaller cats in Canada last year, though in these cases the peril was combined with rain and hail in some instances, and with winter storm in others.

The May 4 windstorm event proved to be an interesting one for the industry, as insured damage resulted from a large number (considerably more than the Fort McMurray wildfire) of mostly small claims. Damage from the storm was widespread, tracking across all of Southern Ontario from Windsor in the southwest, north of Ottawa and east to the Quebec boundary where its impact was felt along the St. Lawrence Valley past Montreal. The storm track largely matched the area in Southern Ontario and Quebec that is most prone to tornadoes.

Though the system did spawn several weak twisters on the U.S. side, this storm was solely a flat line event for Canada, with peak wind gusts measured at 126 km/h at Hamilton Airport and 119 km/h at Pearson International.

Damage from the storm was largely contained to branches or trees falling on structures and vehicles and loss of shingles and siding. Some instances of sewer backup were reported in both provinces, likely due to failed sump pumps due to loss of power (a key reason ICLR

Gatineau, QC (G. Martin)

Failed house in Oakville, ON (G. McGillivray)

seeks to make emergency backup power for sump systems mandatory). It is assumed that there was considerably more damage experienced from the storm than what was captured by CatIQ, however many property owners either chose not to call their insurance providers or found that damage didn't exceed deductibles.

In at least two instances, partially constructed houses collapsed due to the high winds, with cases reported in Georgetown and Oakville, Ontario. Houses that are not yet completed are particularly vulnerable to wind, especially if windows, doors and drywall have yet to be installed, as these features add stiffness or rigidity to the structure. Prior to this event, ICLR observed what appeared to be a growing trend of more partially constructed homes failing in windstorms in Canada. The Institute has commissioned researchers at Western Engineering to investigate the issue and report back with findings and recommendations.

Generally speaking, mitigating the type of wind damage experienced on May 4 is challenging, though some benefits would likely be gleaned from the improved maintenance of trees, both on the private and public sides of property lines (this need has been underscored after several ice storms in Southern Ontario and other places in Canada in recent years). Tree branches need to be pruned regularly, with particular emphasis on removing limbs that hang over or are too close to structures, parking areas and power lines. Dead trees need to be removed entirely.

The tornadoes in the Ottawa/Gatineau area in September proved to be a surprise, as tornadoes tend to be. But two things stand out from the September outbreak.

First is the sheer number of tornadoes experienced in a single day that late in September (such a sequence has never before been experienced in Canada in September or later).

Second is that one of the tornadoes that struck was an EF3. The last F3 to strike in Canada in the month of September was in Merritton, Ontario – now known as St. Catharines – in 1898.

Damage in such places as Dunrobin, Ontario and Gatineau, Quebec was extensive. Many structures in Dunrobin lost roofs, making them write-offs (aerial photos of the area were reminiscent of what one would expect to see out of Oklahoma or Kansas after a tornado). The commercial area of town was also hard hit, with the popular local plaza experiencing severe damage, requiring it to be razed. In Gatineau, much damage was done to low rise rental apartments. Many renters who experienced damage were not insured.

As with previous extreme wind events (Elie, MB 2007, Vaughan, ON 2009, Goderich, ON 2011, Angus, ON 2014, Alonso, MB 2018), Western Engineering's Storm Damage Assessment Team (with support from ICLR), conducted forensic investigations of stricken areas. This included damage surveys in Dunrobin, Gatineau and Nepean.

On October 12, ICLR hosted a webinar where team members presented their findings. **Slides** from that event can be found on ICLR's website under 'Workshops'.

A **replay** of the session is also available on ICLR's YouTube Channel.

In addition to supporting Western Engineering in gathering critical information from damage surveys and in lab work related to how homes are built, how and why they fail in extreme wind and how they can be constructed better; ICLR will continue to work with homebuilders and the building code community to incorporate improved wind reduction measures into national and provincial construction codes.

In one key milestone reached this year, ICLR was contracted by the Standards Council of Canada to develop a national wind resilience for Part 9 residential buildings seed document. The seed document will serve as the basis for a National Standard of Canada.

The year showed that extreme wind can be a driver of significant insured loss in Canada (it is likely the second highest cause of catastrophe claims, with water being number one) and that an event doesn't need to be tornadic to produce big claims numbers.

Losses will likely increase in the years ahead, as communities grow and our built environment becomes a bigger target.

Why your clients will buy insurance only after a disaster

Due to six decision biases, consumers will typically not protect themselves against low-probability, high-consequence events until it is too late, a keynote speaker said recently at the CatIQ Connect conference in Toronto.

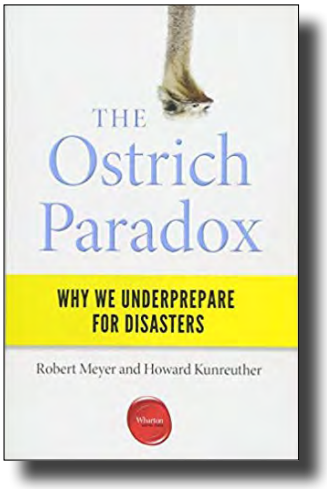
When consumers decide not to purchase insurance or invest in loss reduction measures prior to a disaster, they are typically guided by one or more of the following six decision biases:

- Myopia
- Amnesia
- Optimism
- Inertia
- Simplification
- Herding

The second bias, amnesia, means that people often forget the lessons of the past, leading them to decide not to undertake necessary measures, said Howard Kunreuther, professor and co-director of the Risk Management and Decision Processes Center at the University of Pennsylvania's Wharton School.

Kunreuther was the keynote speaker at the CatIQ conference on February 5. He was discussing the book *The Ostrich Paradox: Why We Underprepare for Disasters*, which he co-wrote with Robert Meyer.

"People buy insurance after a disaster, by the way, not before, unless they are forced to buy it," Kunreuther said. "Then they have it for a few years and say, 'God, I've wasted all these premiums. Look at all the things I could have done with the money that I've spent on insurance. I'm going to cancel my policy.'"



One of the biggest challenges insurers face, Kunreuther said, is convincing consumers that the best return on an insurance policy is no return at all. "Celebrate you haven't had a loss. Very hard to do."

On a personal note, Kunreuther said he bought his first set of battery cables only after his car didn't start. "Battery cables weren't part of my agenda when I bought my first car many years ago." Generally speaking, people focus on the losses after the disaster, not beforehand.

Besides amnesia, five other biases play a role in being underprepared:

- **Myopia:** The focus is on short-term horizons, such as what is going to happen tomorrow, or even next year. "The real challenge with focusing on short-term horizons is that so much of what you want to do in preparing for disasters is to invest in adaptation," Kunreuther said. "How do you adapt to climate change? How do you adapt to the flood problem? How do you reduce [and] mitigate the losses? These costs can be high. So if you're only thinking about the next year or two or three, you're going to say, 'I don't want to put my money into this, I'm not going to get a payback.'"
- **Optimism:** This involves underestimating the likelihood of extreme events. "They're below our threshold level of concern, we're not going to pay attention to them," Kunreuther said. "Even if they're low, you may want to put some energy into thinking about them, as Hurricane Harvey illustrated."
- **Inertia:** Describes not wanting to change from the status quo, because there is a lot of uncertainty in change. "There is loss aversion, so if you lose $10, you're feeling a lot worse about losing the $10 than gaining $10."
- **Simplification:** People don't like to attend to many different things. In risk, the critical issue is probability and consequence. "Now if it turns out that you're following the notion of being optimistic and you say, 'Look, the probability is so small, I'm not going to worry about it,' you've simplified your decision very nicely, but you're not going to focus on the consequences at all," Kunreuther said. "You've already tuned out of the events and you basically said, 'I'm not going to pay attention to what might happen.'"
- **Herding:** This happens when you follow what neighbours, friends or other companies are doing. "We tend to focus on what others are doing, but they might not know any more than we do. Everyone is herding together and you got a social norm of not taking action and that is a real, real challenge to deal with."

Thank you to author Jason Contant, Online Editor for Canadian Underwriter, for kind permission to reprint this article.

Next Friday Forum Webinar: Hail: Challenges, Solutions and Future Prospects

The growth of hail, and especially large hail, requires the alignment of several key ingredients and processes spanning a wide range of scales. Consequently, modelling hail growth and forecasting hail size is challenging. Given that hailstorms inflict billions of dollars in damages, it is important to improve the lead time of warnings. However, predicting the occurrence and size of hail remains problematic. Central to this problem is the lack of skillful short-term forecast guidance. This is in turn partly attributable to the scarcity of reliable surface hail reports for verification.

The first half of the talk will focus on the challenges associated with observing hail, and identifying methods for obtaining accurate estimates of hail size by pairing information from social media and weather radar. It also will highlight the key challenges and limitations facing users of social media data and provides some potential solutions. The number of days when the environmental conditions favour severe thunderstorms over North America has been predicted to increase under anthropogenic climate change (ACC). However, how hail might be affected by ACC is unclear. The second half of the talk will speak to the first study to investigate the spatiotemporal response of hail frequency and size over North America.

SPEAKER: Dr. Julian Brimelow

Dr. Julian Brimelow is a scientist at Environment and Climate Change Canada and an expert in hazardous convective weather. Julian graduated from the University of Pretoria with a BSc in meteorology in 1993, completed his MSc at the University of Alberta in 1999, and in 2011 finished his PhD at the University of Manitoba. Julian is currently working to improve the detection and prediction of hail using radar products and data from Canada's weather models. Julian has a broad publication record on deep convection, thunderstorms, hail, flooding and drought. Julian has worked as a meteorologist for the South African Weather Service and the British Antarctic Survey.

Time: March 22, 2019 1:00 PM Eastern Time

For more information and to register, see https://bit.ly/2Ev6QaX

Institute for Catastrophic Loss Reduction

Mission

To reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

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