

CLIMATE CHANGE AND EXTREME WEATHER: WHY CANADA MUST ADAPT (NOW)

Presentation for
Standing Senate Committee on Energy,
The Environment and Natural Resources

Presentation by
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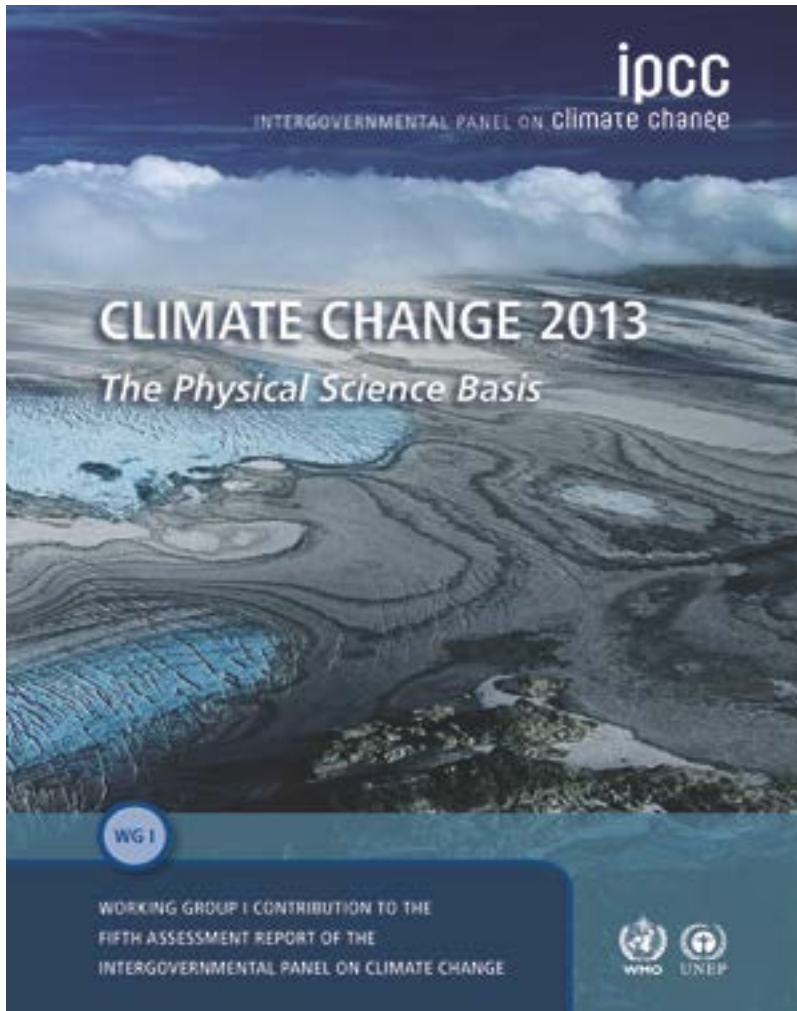
INTACT CENTRE
ON CLIMATE ADAPTATION

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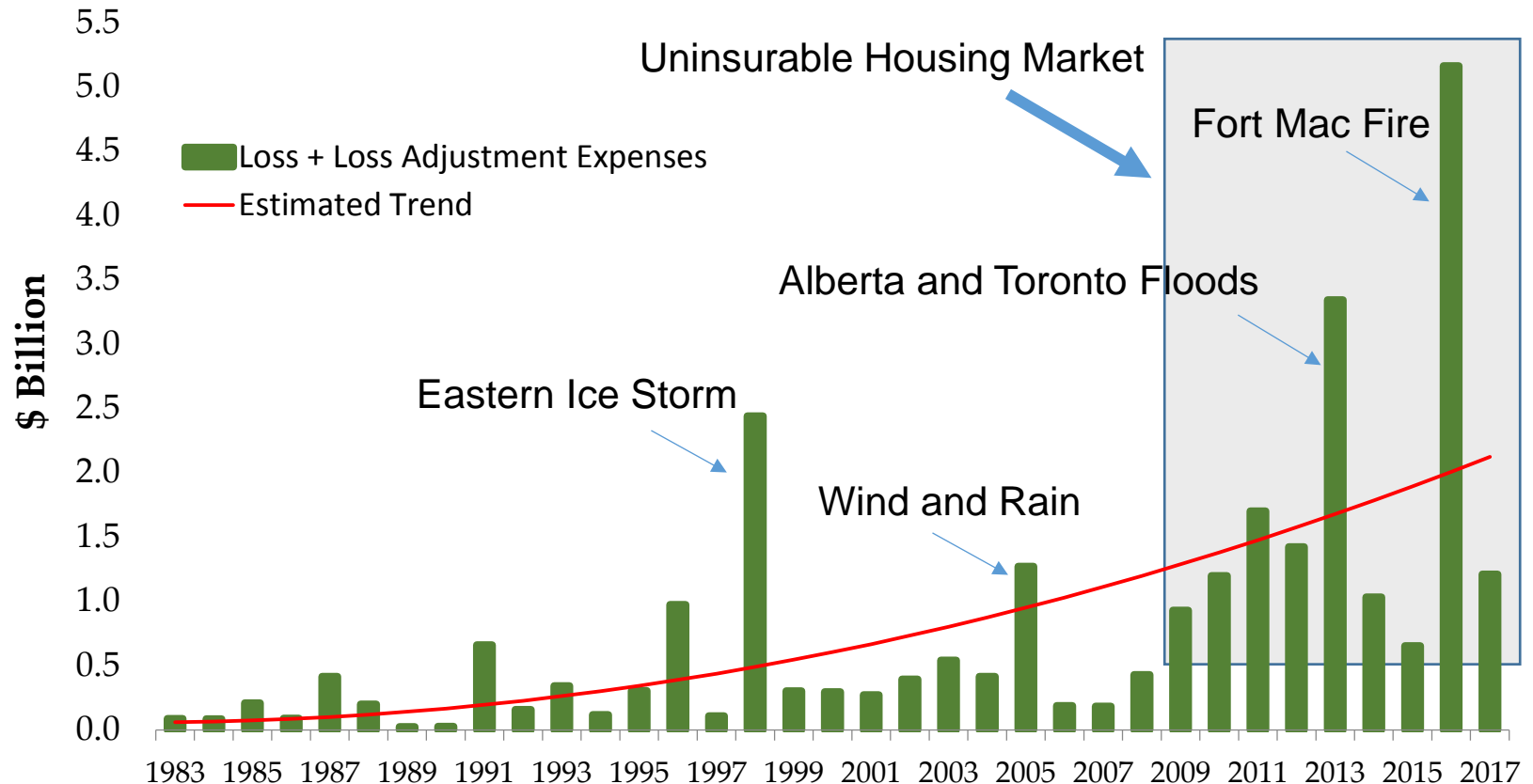
1. Financial and social costs of climate change and extreme weather are going up
2. Canada is developing cost-effective adaptation Standards & programs to limit extreme weather risk
3. Next steps for Canada on Adaptation

WHAT SCIENCE TELLS US ABOUT CLIMATE CHANGE



It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century (0.08 °C/decade for past 100 years)

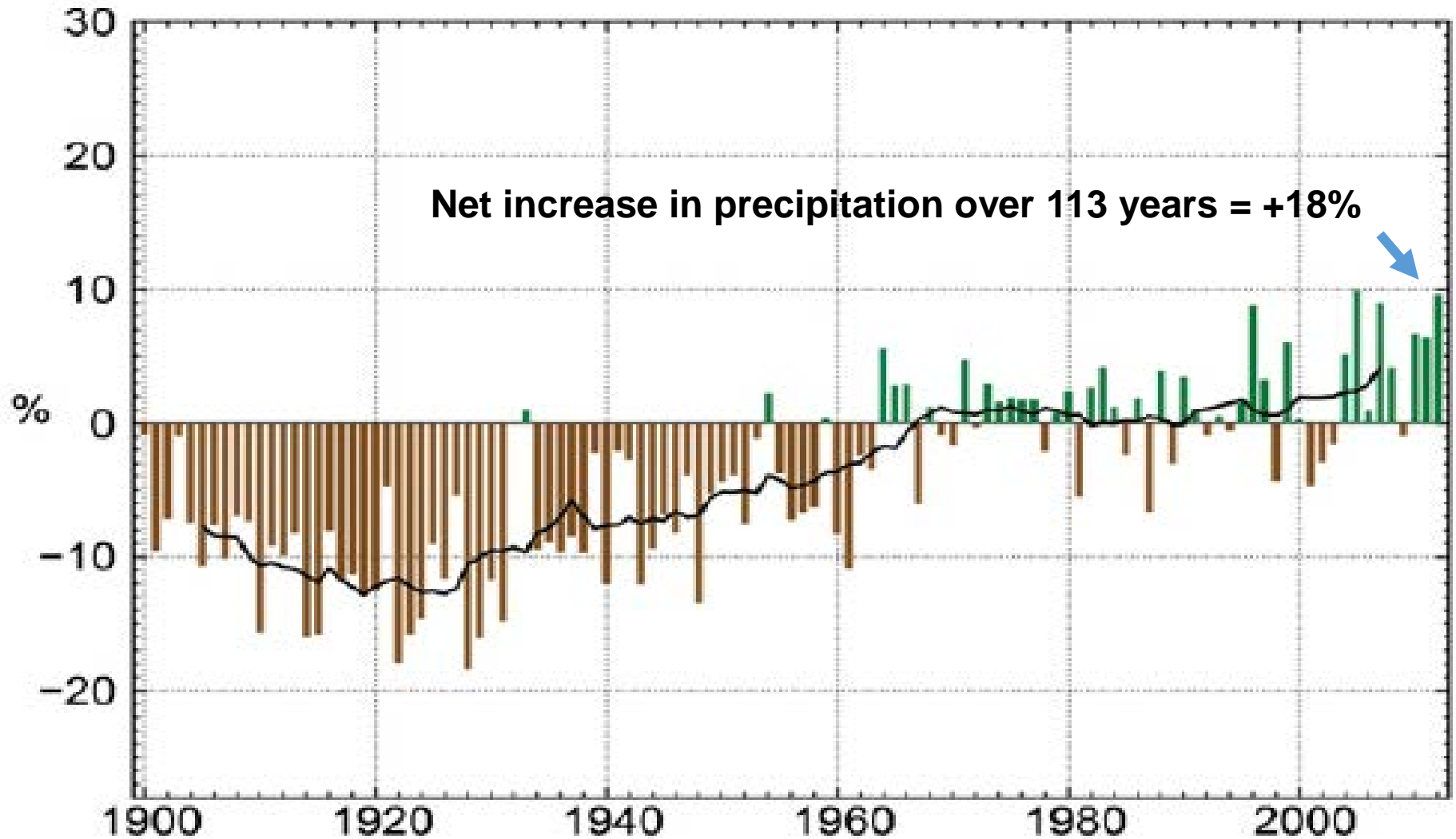
COSTS OF EXTREME WEATHER: CATASTROPHIC INSURABLE LOSSES











Source: IBC Facts Book, PCS, CatIQ, Swiss Re, Munich Re & Deloitte
Values in 2017\$ CAN, 2017 preliminary

Note: Cost to government and homeowners 3-4X that of private insurers.

CHANGE IN ANNUAL PRECIPITATION: SOUTHERN CANADA, 1900 - 2012



Average Premiums by Province and PPV/HOM

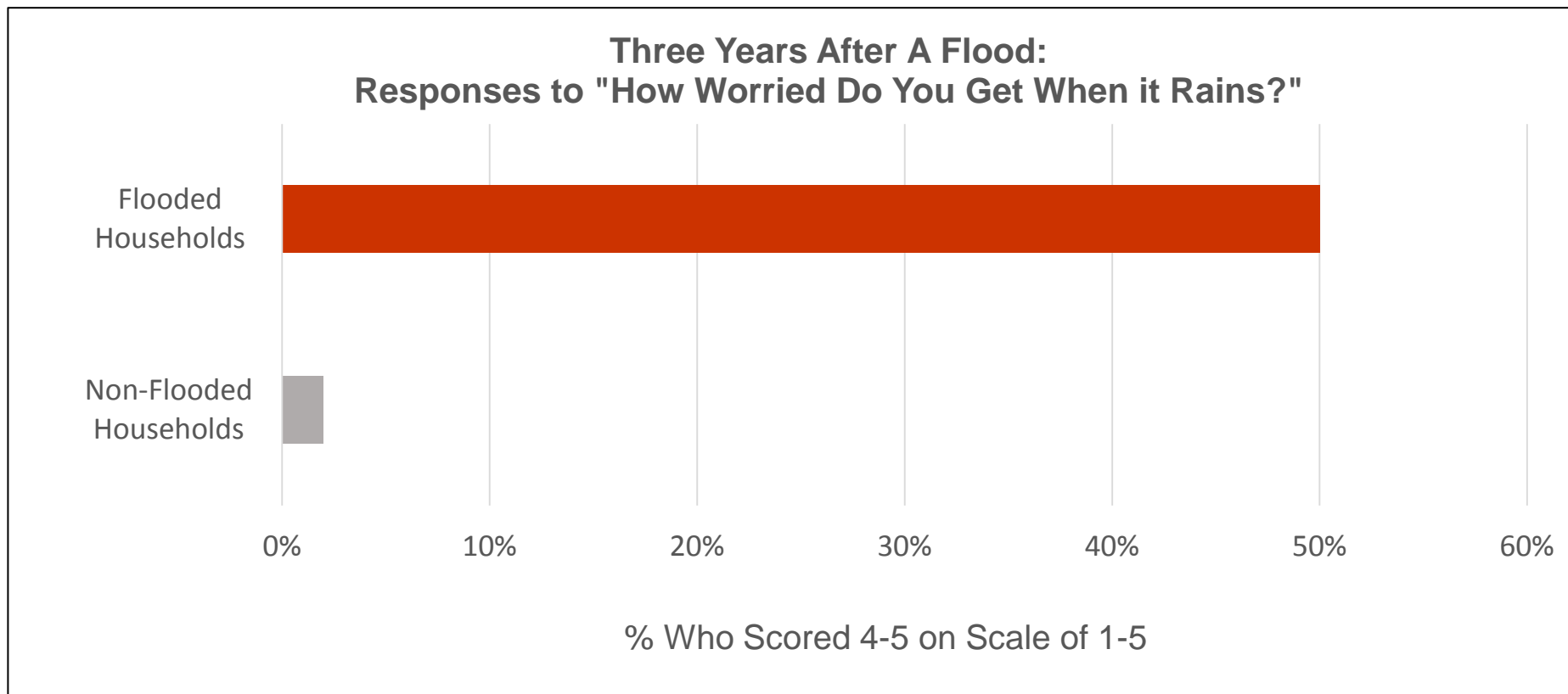
| Year | Ontario | | Alberta | | Quebec | | Atlantic Canada | |
|-------|---|---|---|--|---|---|---|---|
| | PPV | HOM | PPV | HOM | PPV | HOM | PPV | HOM |
| 2005 | \$ 1,077 | \$ 599 | \$ 1,020 | \$ 496 | \$ 558 | \$ 552 | \$ 775 | \$ 606 |
| 2006 | \$ 1,053 | \$ 617 | \$ 1,013 | \$ 521 | \$ 542 | \$ 563 | \$ 750 | \$ 619 |
| 2007 | \$ 1,066 | \$ 650 | \$ 1,030 | \$ 617 | \$ 540 | \$ 585 | \$ 731 | \$ 632 |
| 2008 | \$ 1,134 | \$ 683 | \$ 1,047 | \$ 719 | \$ 533 | \$ 612 | \$ 727 | \$ 604 |
| 2009 | \$ 1,194 | \$ 734 | \$ 1,076 | \$ 810 | \$ 517 | \$ 652 | \$ 737 | \$ 632 |
| 2010 | \$ 1,311 | \$ 855 | \$ 1,057 | \$ 911 | \$ 498 | \$ 692 | \$ 739 | \$ 706 |
| 2011 | \$ 1,309 | \$ 911 | \$ 1,053 | \$ 1,006 | \$ 491 | \$ 722 | \$ 736 | \$ 755 |
| 2012 | \$ 1,307 | \$ 915 | \$ 1,038 | \$ 1,041 | \$ 474 | \$ 735 | \$ 704 | \$ 732 |
| 2013 | \$ 1,357 | \$ 956 | \$ 1,072 | \$ 1,189 | \$ 482 | \$ 762 | \$ 686 | \$ 794 |
| 2014 | \$ 1,331 | \$ 1,052 | \$ 1,136 | \$ 1,404 | \$ 479 | \$ 803 | \$ 695 | \$ 853 |
| 2015 | \$ 1,302 | \$ 1,065 | \$ 1,204 | \$ 1,483 | \$ 491 | \$ 855 | \$ 731 | \$ 864 |
| 2016 | \$ 1,294 | \$ 1,123 | \$ 1,268 | \$ 1,576 | \$ 515 | \$ 898 | \$ 769 | \$ 921 |
| Trend |  |  |  |  |  |  |  |  |

PPV = Private Passenger Vehicle insurance

HOM = Homeowners insurance

ASSESSMENT OF MENTAL AND PHYSICAL HEALTH IMPACTS OF BASEMENT FLOODING

- *“It’s something you never want to experience again in your life”*
- *Average time off work following basement flood – 7.1 days
(basement flood now attracting attention of Life & Health Insurers)*



NEW SCC/CSA FLOOD & FIRE STANDARDS

Confirmed New Standards



Flood Standard:
Basements



Flood Standard:
Existing Communities



Flood Standard:
New Communities



Standard:
Electricity Transmission &
Distribution

Forthcoming Standard



FireSmart Standard

National Research Council Canada



Standards Council of Canada
Conseil canadien des normes



HOME INSPECTION: BASEMENT FLOOD ASSESSMENT

- 9,000 Home Inspectors in Ontario & 40,000 nationally
- Home Inspectors currently receive virtually no training on basement flood risk
- basement flood assessment would be applied to nearly all homes during the “buy/sell cycle”, and/or on request by home owner/insurer

Fleming College

50
YEARS



BRITISH COLUMBIA
INSTITUTE OF TECHNOLOGY

Seneca
Because it matters.

Courses in Home Inspection Certificate (Online)

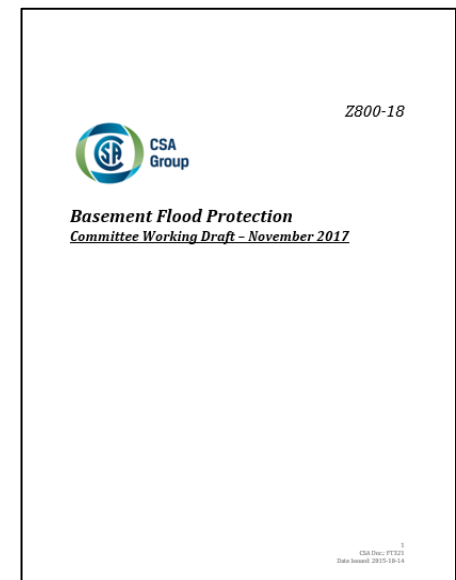
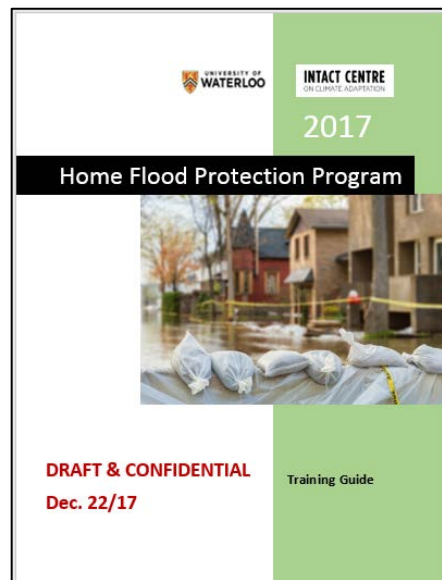
DETAILS AND REGISTRATION BELOW

MANDATORY COURSES

- » Roofing Inspection (CNST106)
- » Structural Inspection (CNST107)
- » Electrical Inspection (CNST099)
- » Heating Inspection I (CNST101)
- » Heating Inspection II (CNST102)
- » Air Conditioning and Heat Pump Inspection (CNST097)
- » Plumbing Inspection (CNST105)
- » Exterior Inspection (CNST100)
- » Interior/Insulation Inspection (CNST103)
- » Communication/Professional Practices (COMM052)

Home Flood (Self) Assessment APP – for Canadian Home Owners

- **Purpose:** assess basement flood risk based on “80:20” rule. App would consist of 15-25 questions presented to home owner regarding potential flood risk – much material to draw upon (see below).
- **Characteristics:** “connect to homeowner” using simple tool. Fast: 20-30 minutes to complete. Scalable – available to all homeowners/insurers. Incentive: App could result in premium adjustment.



INSURERS STEPPING UP TO INCENTIVIZE HOME FLOOD PROTECTION

*"Water damage is now the leading cause of personal property claims. Over the last 10 years, water losses for personal property claims have doubled to 40% (of \$ paid in losses). There are a number of improvements that Canadians can take to better protect their homes and communities against water damage. **By taking these steps, Canadians could lower their annual premiums - anywhere from 5 to 15%.** Those who live in municipalities who make climate resilient infrastructure a priority could also benefit from more affordable premiums, higher coverage limits and enhanced insurance coverage."*

...Intact Financial Corporation

NEXT STEPS FOR CANADA ON ADAPTATION

1. New national training for Home Inspectors on **Basement Flood Risk Assessment**
2. Nationally available **Home Flood Self-Assessment App** for Home Owners
3. Up-to-Date **Flood Plain Maps** for Canada