

Building Codes:

Economic Impact

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Virginia Department of Housing and
Community Development

Business Perspective

● Benefits

- Reduced energy costs
- Increased ability to withstand extreme weather events (resiliency)
- Uniformity
- Reduced insurance costs
- Increased aging population - \$\$\$\$

Consumer Perspective

- ◉ Reduced energy costs
- ◉ Increased ability to withstand extreme weather events (Resiliency).
- ◉ Basic level of safety/confidence vs. buyer beware
- ◉ Increased safety/quality of life

Government Perspective

- The Federal Government incurred at least \$357 billion in direct costs over the last decade due to extreme weather and wildfires alone.
 - This represents a small fraction of the true economic cost and does not include costs absorbed by the private sector, state, tribal, and local governments, international disaster response and relief, military spending, healthcare expenses, and loss or damage to ecosystem services, among other costs (Council on Climate Preparedness and Resilience, 2016 – pg 8).

THE WHITE HOUSE

Incorporating Resilience into Building Codes and Standards

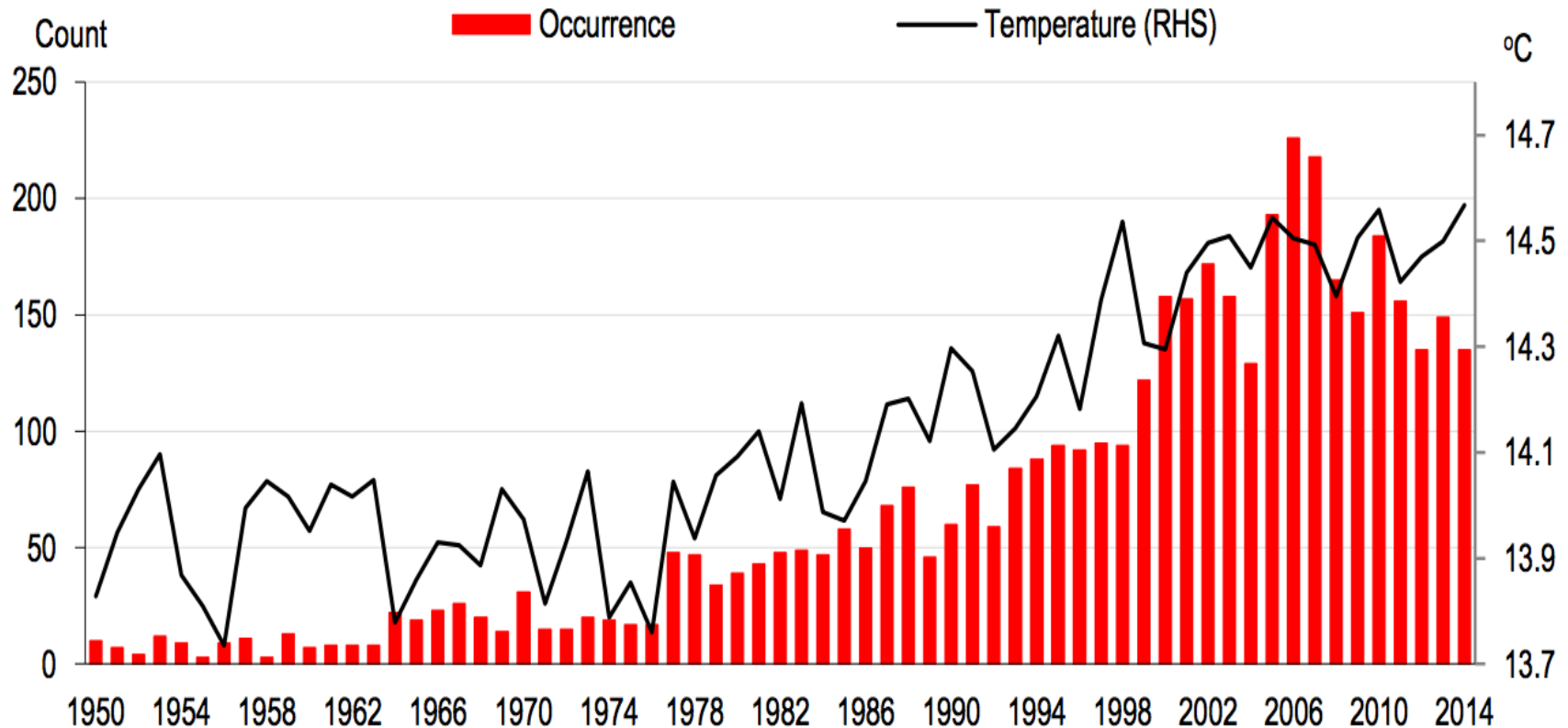
- **Ryan Colker**, *Presidential Advisor, National Institute of Building Sciences*
- **Dominic Sims**, *CEO, International Code Council*
- **Kathleen Almand**, *Vice President, Research, National Fire Protection Association*
- **Jim Rossberg**, *Managing Director for Engineering Programs, American Society of Civil Engineers*
- **Mick Schwedler**, *Board Member, ASHRAE*

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Extreme Weather Chart

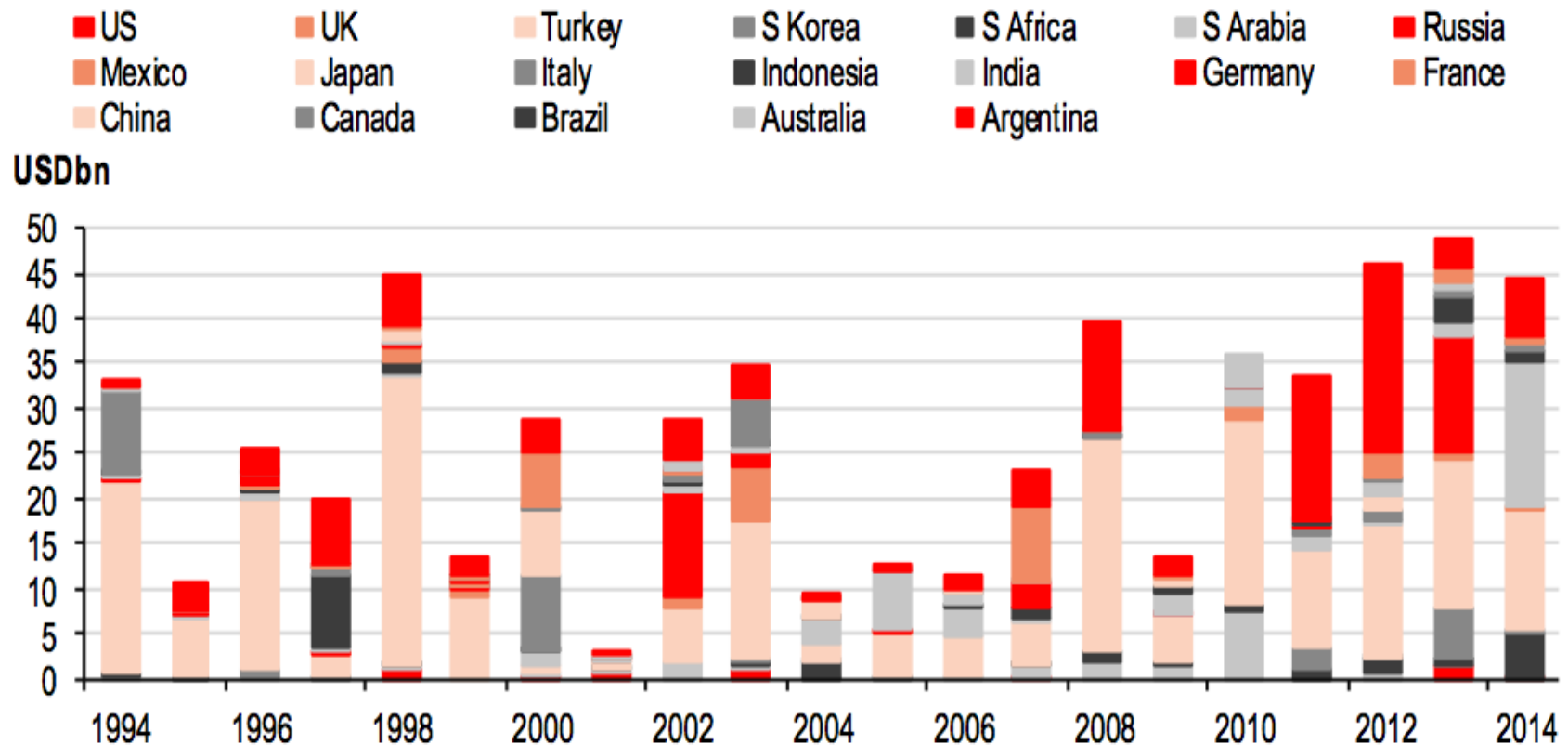
Chart 2 : Rise in floods directly correlated with rise in temperature



Source: UK MET ; EM-DAT: The CRED/OFDA International Disaster Database

Costs of Damage

Chart 13: Damage costs across regions since 1994



Source: HSBC, EMDAT

Microburst over Phoenix Arizona



Economic Impact

- ◉ True or False:
- ◉ insurance and aid from government agencies will allow merchants to pick up the pieces after a flood, major earthquake or like disaster
 - FALSE — many types of disasters are not covered under normal insurance policies and aid from government agencies may be too little, too late.

Economic Impact

- Five years after Ike, only 41% of all the homes had been rebuilt or rehabilitated, according to data obtained from the General Land Office (Wilder, 2013).

Wilder, F. (2013). *Five Years On, Hurricane Ike Recovery Still Painfully Slow*. Texas Observer. Sept 20, 2013. Retrieved from <https://www.texasobserver.org/five-years-hurricane-ike-recovery-effort-drags/>

Economic Impact

- Forty % of businesses do not reopen after a disaster and another 25 % fail within one year according to the Federal Emergency Management Agency (FEMA).
- Statistics from the U. S. Small Business Administration show that > 90 % of businesses fail within two years after being struck by a disaster.

Mitigation Saves Report

● Volume I

- “A dollar spent on mitigation saves society an average of \$4.” (NIBS, 2005)

● Volume II – Summer 2017

- Examination of the Value of Private Sector Investment in Mitigation”.(NIBS, 2016)

No Codes – The Economic Impact

- the cost to public health and safety from design flaws or improper installation;
- the unnecessary cost to home owners, businesses and taxpayers from buildings wasting energy and water;
- Lower quality of the built environment = lower tax base
- Higher susceptibility to natural and manmade disasters

No Codes - Impact

- Haiti 2010 – 7.0 magnitude earthquake
 - Killed approximately 230,000
 - Injured 300,000
 - 1 million left homeless

VS

With Codes – Impact

- Chile 2010 – 8.8 magnitude earthquake
 - 521 killed
- The undisputed answer in the difference is the adoption and use of modern building codes

With Codes - Impact

- Model codes allow building suppliers to target a national market.
- Regularly upgraded building codes ensure new products and practices make their way into buildings when the time is right and are no longer experimental.
- Regular, incremental improvements help us continue to build better, and smarter, buildings as cost effectively as possible
- provide an insurance industry grappling with the effects of climate change and extreme weather with a baseline for estimating and managing risk

With Codes - Impact

- Researchers at Louisiana State University found that if stronger building codes had been in place, wind damages from Hurricane Katrina would have been reduced by a whopping 80 percent.

Economic Impacts of Virginia's Housing Industry

- Virginia Coalition of Housing and Economic Development Researchers



Economic Impacts of Virginia's Housing Industry cont'd

- Created \$47.8 billion in economic activity in 2015
- Supported over 314,000 jobs paying more than \$14 billion in annual wages
- Approximately 8% of VA jobs are related to private sector housing activities



2015 ECONOMIC IMPACT OF THE **VIRGINIA HOUSING INDUSTRY**

\$47.8 Billion Economic Activity



\$23.3 Billion Value Added to Gross State Product



314,299 Jobs



\$1.66 Billion State and Local Taxes



\$14.2 Billion Labor Income

6th
**LARGEST PRIVATE
SECTOR INDUSTRY**
by Direct Output

This research was commissioned by the Governor's Housing Policy Advisory Council, whose members provided invaluable guidance and information to the research project. The full report and companion research projects for Assessing the Importance of Housing for Virginia's Economy can be accessed at www.virginiahousingpolicy.com.

Economic Impacts of Virginia's Housing Industry cont'd

“Housing plays a critical role in economic and community development, and housing quality can significantly influence health and education outcomes, as well as access to economic opportunity” (Clower & White, 2016).

Clower, T. & White, M., (2016). *Economic Impacts of Virginia's Housing Industry*. Virginia Coalition of Housing and Economic Development Researchers. Center for Regional Analysis, George Mason University

IBHS Rating of 18 Hurricane Prone States



Virginia's rank in code
strength by the Insurance
Institute for Business and
Home Safety

Gilchrist, TX – Hurricane Ike

