

Insights**ADDRESSING CLIMATE CHANGE IN DUE DILIGENCE FOR REAL ESTATE TRANSACTIONS**

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Climate change is expected to have a significant impact on existing real estate. According to a government assessment, by 2050 up to \$106 billion of United States real estate will be below sea level. In addition to rising sea levels, the assessment concluded that climate change may cause real estate damage from storm surge flooding, wildfires, saltwater intrusion into coastal aquifers, elevated groundwater tables, flooding of hazardous waste sites, erosion, and drought-induced forest fires.

While some of the most severe impacts of climate change may not materialize before 2050, real estate is a long term investment. Indeed it will be 2050 by the time that today's 30-year mortgages mature. Given the risks posed by climate change, investors should consider the following five things when conducting due diligence on a potential investment.

1. Move Beyond the Traditional All Appropriate Inquiry

The All Appropriate Inquiries ("AAI") standard promulgated by the U.S. Environmental Protection Agency¹ has always been the beginning – rather than the end – of real estate due diligence. The AAI Phase I report does not address a multitude of known environmental risks such as lead paint, asbestos, contaminated drinking water, PCBs in underground or in-wall electric cables, radon, mold, and poor indoor air quality. The fundamental problem is that the AAI looks backward at the burden legacy liabilities place on future property owners. The AAI is not designed to address new risks that are expected to materialize from climate change.

2. Understand the Limitations of FEMA Maps

Traditional real estate due diligence involves scrutiny of flood maps published by the Federal Emergency Management Agency ("FEMA"). There is, however, widespread confusion as to what these maps mean and how they are prepared.

FEMA maps identify areas within the 100-year² and 500-year³ floodplains; areas outside the 500-year floodplain are referred to as "areas of minimal flood hazard."⁴ While that may have been correct in the past, it is no longer so.

FEMA maps are predictions based on hydrologic models that utilize limited historical data. As a result, they are frequently wrong. Moreover, when it comes to climate *change*, historic data are insufficient. Past performance really is – by definition – no guarantee of future expectations.

While federal law authorizes FEMA to take climate change into account when preparing maps,⁵ FEMA has failed to do so.⁶ Because climate change is expected to cause sea levels to rise by up to 8 feet (or even 11.5 feet in some areas) by 2100,⁷ that deficiency is material.

3. Don't rely on flood insurance as the sole risk mitigation

If real estate is found to be in an area where flooding may be a significant risk, flood insurance may be prudent, but it is no panacea. Most flood insurance in the United States is made available under the National Flood Insurance Program operated by the federal government. Coverage limits for commercial properties are very low: \$500,000 for damage to real property and \$500,000 for damage to personal property. The program does not offer business interruption coverage. Additional property damage coverage and business interruption coverage may be available from excess carriers, but premiums are likely to rise over time with the additional flooding risks from rising seas and more intense storms.

Moreover, the National Flood Insurance Program may not be sustainable. From 2005 to 2018, the program paid \$36 billion more than it charged in premiums.⁸ In effect, the program provided an enormous subsidy to property owners with real estate in areas

susceptible to flood hazards. That subsidy may stop. A report issued by the U.S. Government Accountability Office⁹ recommended that Congress require flood insurance premiums to be set at levels that are actuarially sound. That would cause premiums to skyrocket.

4. Greenhouse Gas Regulations and Increased Energy Costs

Cities across the country are considering regulatory programs to reduce greenhouse gases that could raise energy costs. For example, New York City has enacted a local law requiring costly energy retrofits of many buildings whose energy efficiency falls short of current code requirements.¹⁰ Due diligence for a major real estate transaction should consider the energy efficiency of the real estate asset and the capital improvements that may be required under future laws.

5. New Building Code Provisions

Where coastal property is purchased for the purpose of development, care must be taken to determine whether building code requirements designed to address flooding risks have been adopted (or are under consideration). Such requirements have been adopted by several coastal municipalities. For example, in New York City, the Department of Buildings requires new construction to take into account flooding at heights and in areas well beyond those identified in the effective FEMA maps.

6. Too Hot to Handle?

Finally, climate change may impact the demand for real estate in certain areas. By 2100, Phoenix may experience more than 100 days a year of temperatures above 110 degrees,¹¹ and temperatures in Dallas are projected to be above 95 degrees for more than four months a year.¹² Real estate values may decline in such areas if populations move elsewhere.

1. 40 C.F.R. Part 312.

2. The “100-year floodplain” is the area that has a 1% annual chance of flooding. Given compounding year-over-year risk, over the course of a 30 year mortgage, there is a 26% likelihood of one or more floods ($1.00 - 0.99^{30} = 0.26$).

3. The “500-year floodplain” is the area that has a 0.2% annual chance of flooding. Over the course of 30 years there is a 6% likelihood of one or more floods ($1.00 - 0.998^{30} = 0.06$).

4. <https://www.fema.gov/flood-zones>.

5. 42 U.S.C. § 4101b(b)(3)(D).

6. <https://www.fema.gov/coastal-frequently-asked-questions#How%20is%20FEMA%20accounting%20for%20sea%20level%20rise%20and%20climate%20change%20on%20the%20FIRMs%20Does%20sea%20level%20rise/climate%20change%20affect%20the%20FIRMs?>

7. 2018 National Climate Assessment, Chapter 8

8. <https://www.insurancejournal.com/blogs/right-street/2018/09/13/500996.htm>.

9. U.S. Government Accountability Office, Flood Insurance: Comprehensive Reform Could Improve Solvency and Enhance Resilience (April 2017) (<https://www.gao.gov/assets/690/684354.pdf>).

10. *See New York City Local Law 97, enacted on May 19, 2019, as part of the City's Climate Mobilization Act.*

11. <http://www.climatecentral.org/news/87-cities-4-scenarios-1-really-hot-future-for-us-17866>.

12. <https://www.nytimes.com/interactive/2016/08/20/sunday-review/climate-change-hot-future.html?mcubz=0>

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