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EEA releases Climate Change Adaptation Report

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The Massachusetts Climate Change Adaptation Report (Report) addresses the observed and predicted changes to Massachusetts' climate, outlines their anticipated impacts and identifies potential strategies to mitigate them. For property owners, managers and developers, the Report provides information to assess the infrastructure, design and vulnerabilities for existing and proposed projects.

Released in September 2011 by the Office of Energy and Environmental Affairs (EEA), the Report cites data that due largely to increase in ambient temperatures electricity demand will increase of 40% by 2030. Winter precipitation, mostly as rain, will increase by 12 to 30%. By 2050, the Report states that 100 year flood events are expected to occur every 2-3 years. Figures cited in the Report estimate present day asset exposure in Boston from a 100 year event at \$77 billion, and mid-century estimates exceed \$400 billion.

Massachusetts' key infrastructure is often sited along coasts, rivers and in floodplains making it susceptible to changes in sea level, extreme precipitation and flooding associated with climate change. The Report emphasizes that the most significant vulnerability of existing structures is that they were not designed to account for such events especially at the scale now anticipated. As a result, structures, roadways, tunnels, storm and wastewater facilities are at risk for repeated failures, damage and increasing costs associated with economic disruptions and insurance. Other issues predicted to arise include: increased thermal stress and accelerated corrosion of building materials due to increasing temperatures, indoor air quality issues and greater cooling demands.

The Report provides a base for administrators to expand and revise current regulatory framework, but it is not yet clear how and when changes will occur. EEA has announced the formation of a stakeholder group to address the inclusion of climate change issues into the MEPA review process. Additional scrutiny can also be expected for land development in buffer zones and flood proofing measures. Programs to incentivize the early implementation of adaptation strategies, such as LID and LEED building standards may also arise.

Even with some degree of uncertainty regarding the scale of the climate changes and resulting regulations, it makes sense for owners, managers and developers to investigate the capacity of key systems, such as storm water and HVAC, over the project lifecycle. Implementation of adaptive mitigation strategies now can assist in the long-term protection of assets from the effects of climate change.

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