BEYOND CARBON MITIGATION:

THE NECESSITY OF RESILIENCE FOR COMMERCIAL BUILDINGS IN DISASTER-PRONE REGIONS

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2016 Project Management Symposium

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Buildings in Changing Climate

Carbon Mitigation

- 33% of the national carbon emissions
- 2,711 million MT reduction potential

Climate Adaptation

- $22 billion damage in East Coast
- Four times payback on adaptation

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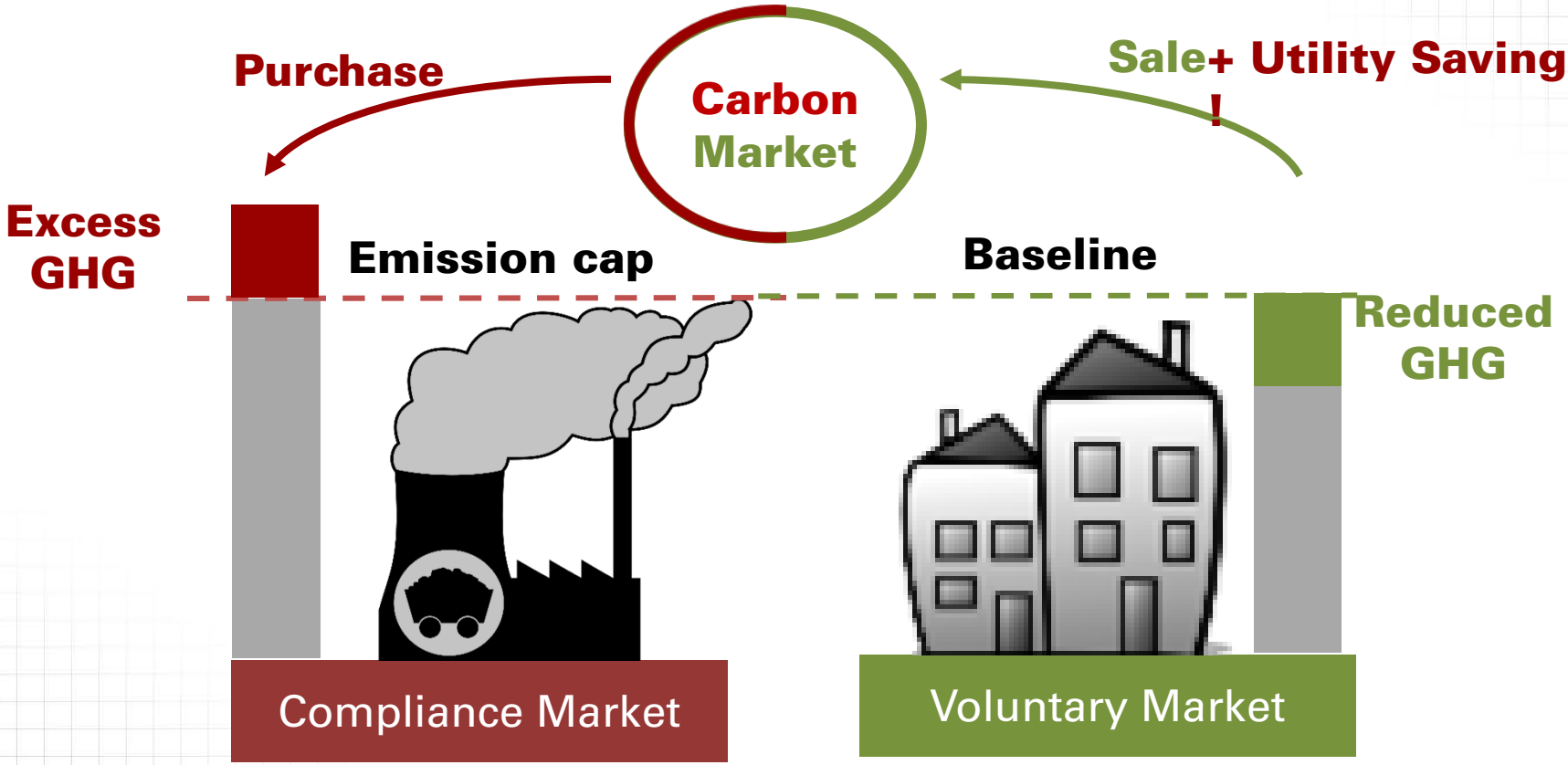
Markets for Carbon Mitigation



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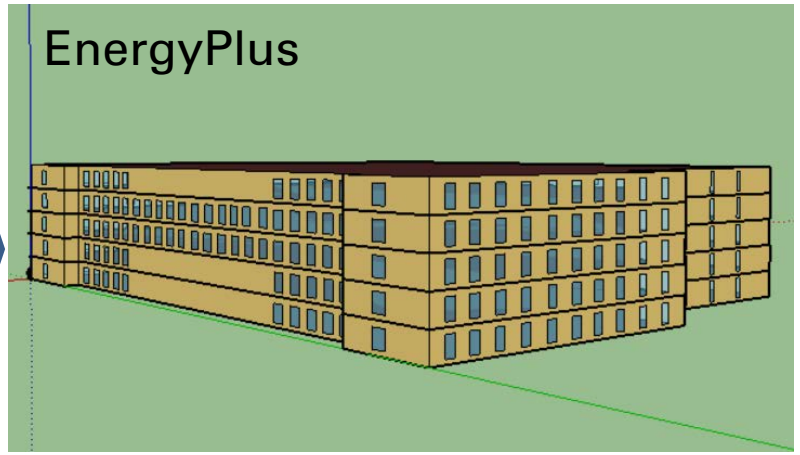
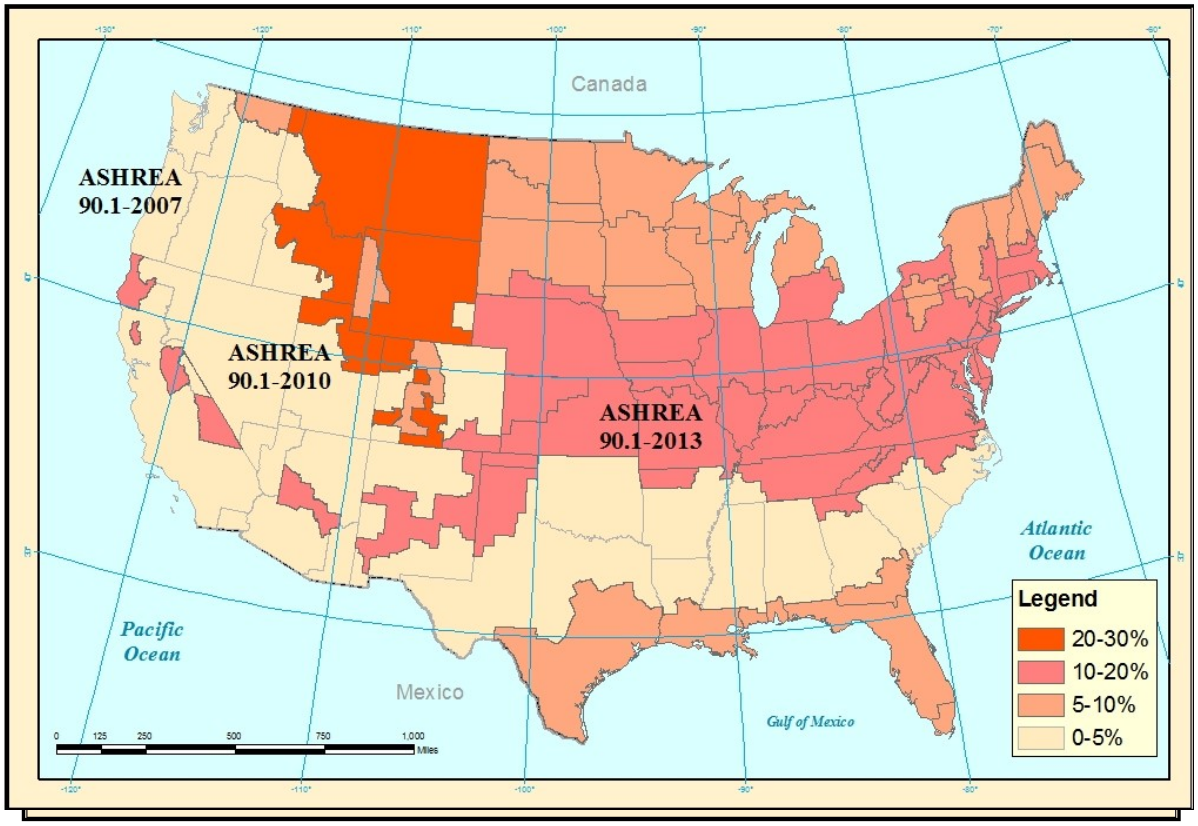
Mckeldin Library

Carbon mitigation measures

- **Roof insulation**
- **Wall insulation**
- **Windows**
- **Daylight control**



Carbon Mitigation Produces Profits



Emission reduced:

21.2 kg/sq.ft

Profit earned:

¢12 / sq.ft

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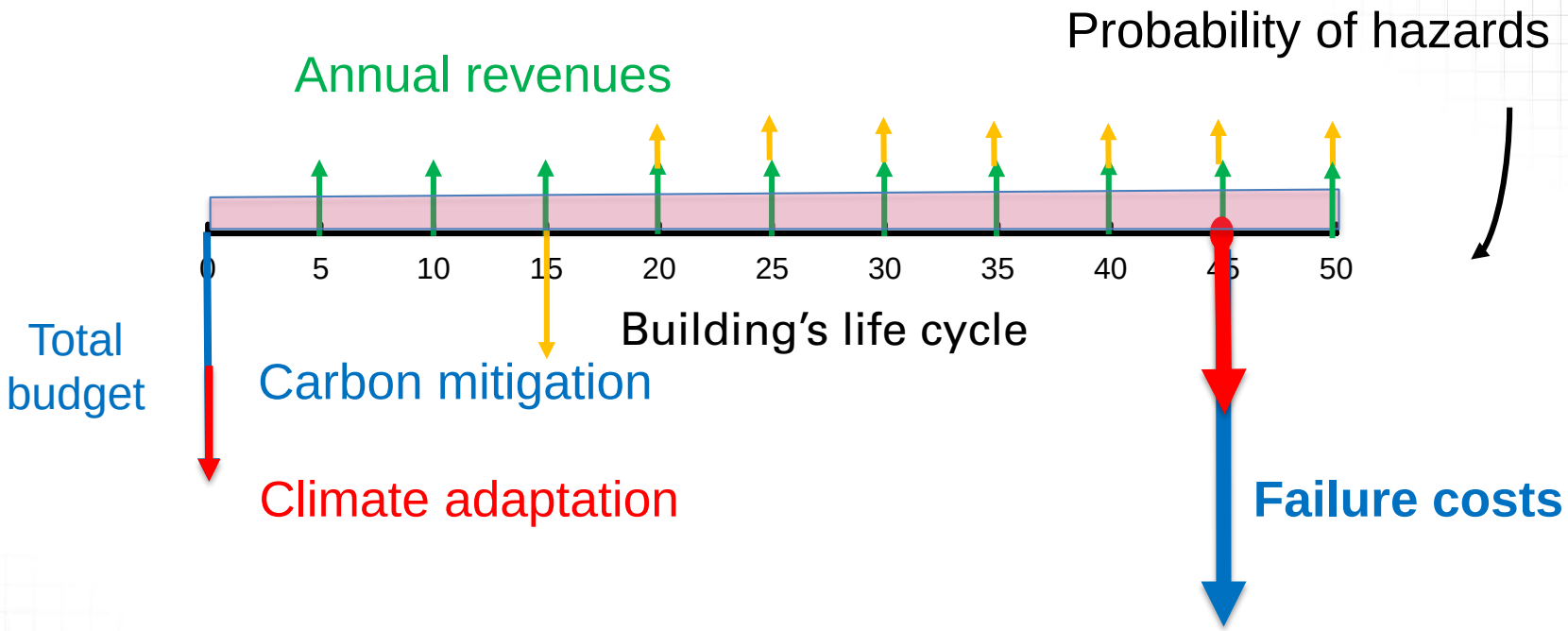
Climate Risk Matters !



Climate risks raise the need of investing in adaptation

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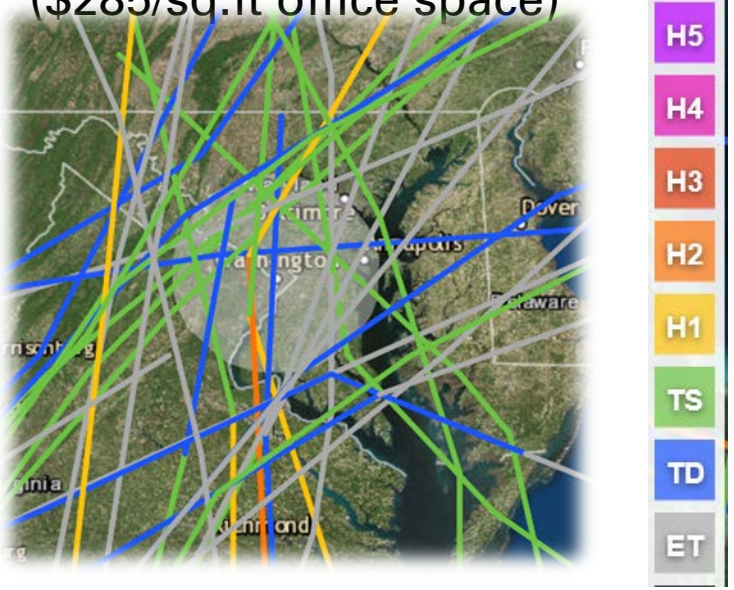
Miami-Dade County, FL

- **High hurricane risk**
  (1-min average 35m/s)
- **Medium building values**

Washington, DC

- **Medium hurricane risk**
  (1-min average 21m/s)
- **High building values**
  ($285/sq.ft office space)



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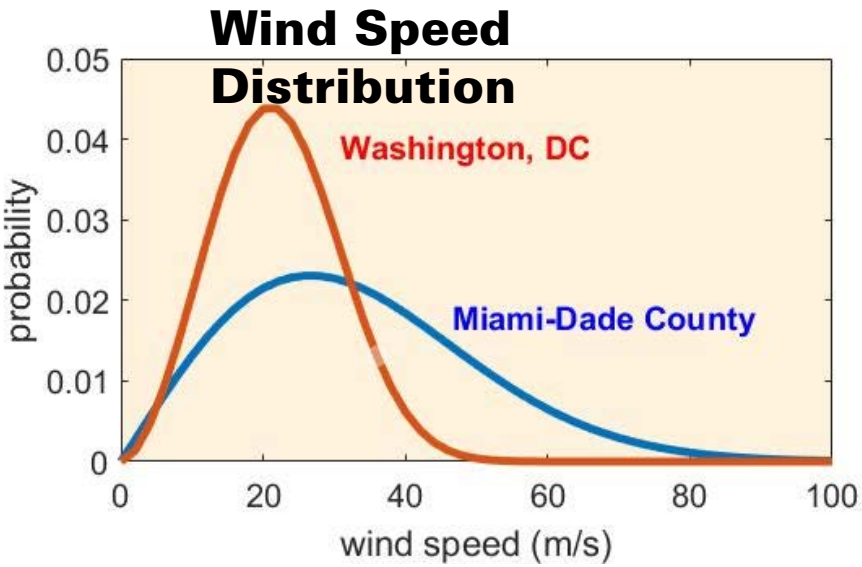
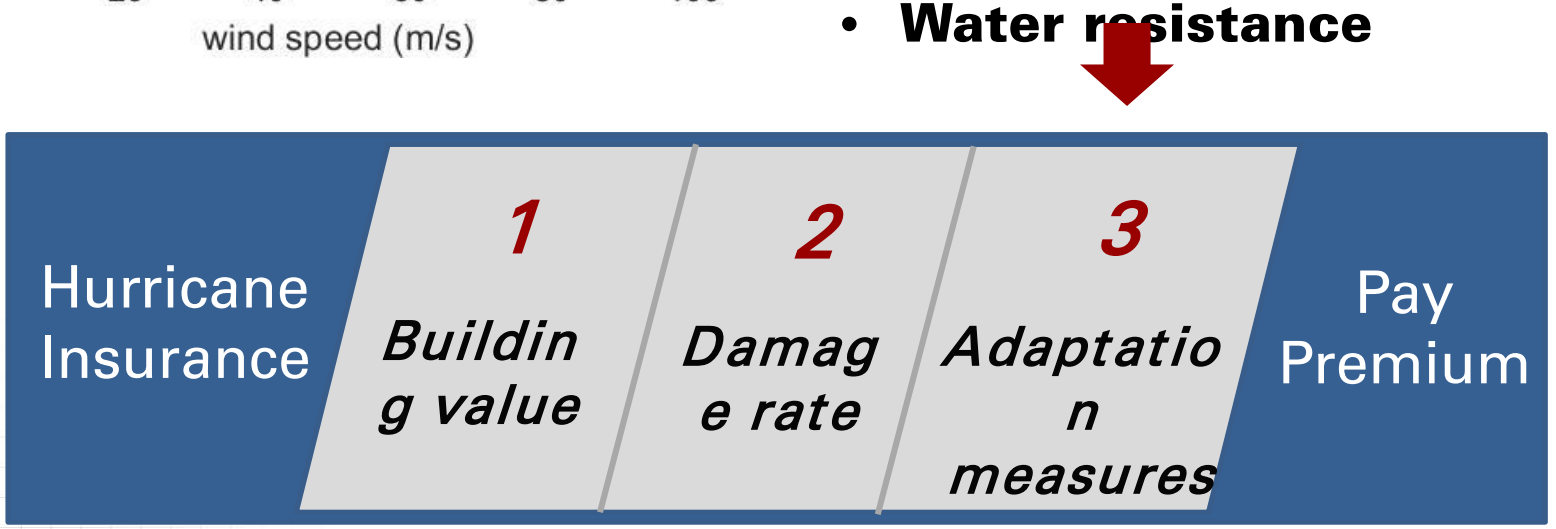


Hurricane adaptation measures

- **Roof covering**
- **Roof-to-wall connection**
- **Shutters**
- **Water resistance**



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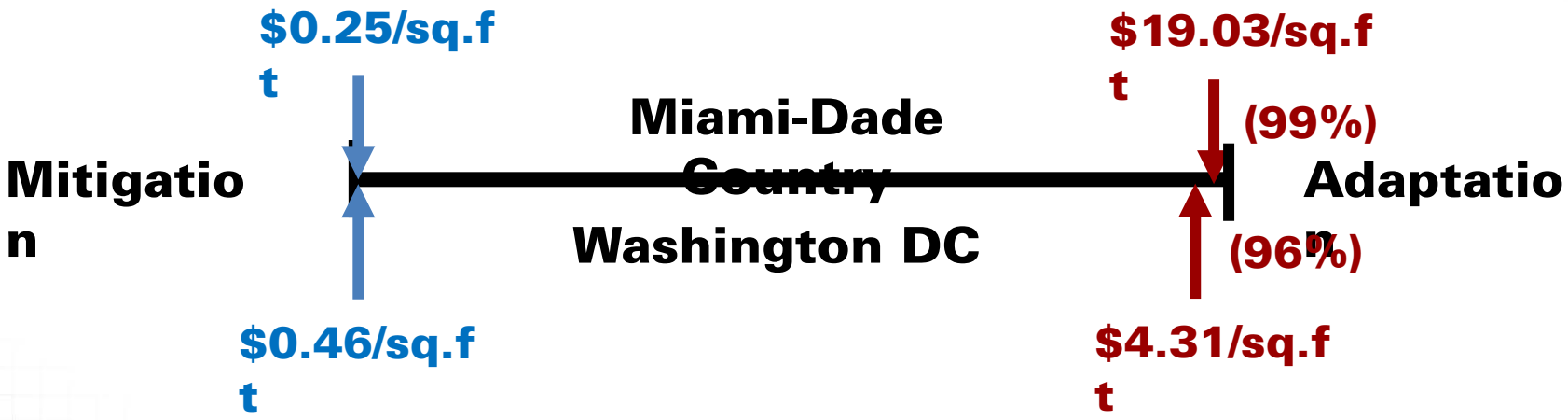
Adaptation Investment Produces Values



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Conclusion

- Carbon mitigation produces profits (¢12/sq.ft)
- The merits of carbon mitigation diminish with increasing climate risks
- A mixed investment is much more profitable than pure mitigation investment in disaster-prone regions

Questions?

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