

Is it time yet?

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EPRI Seminar

Washington, DC

UNFCCC calls for

cost-
effectiveness
analysis

Not cost-
benefit
analysis

**Long-lived
nature of
existing capital
stock**

**Shortage of
low-cost
alternatives**

**Positive return
on capital**

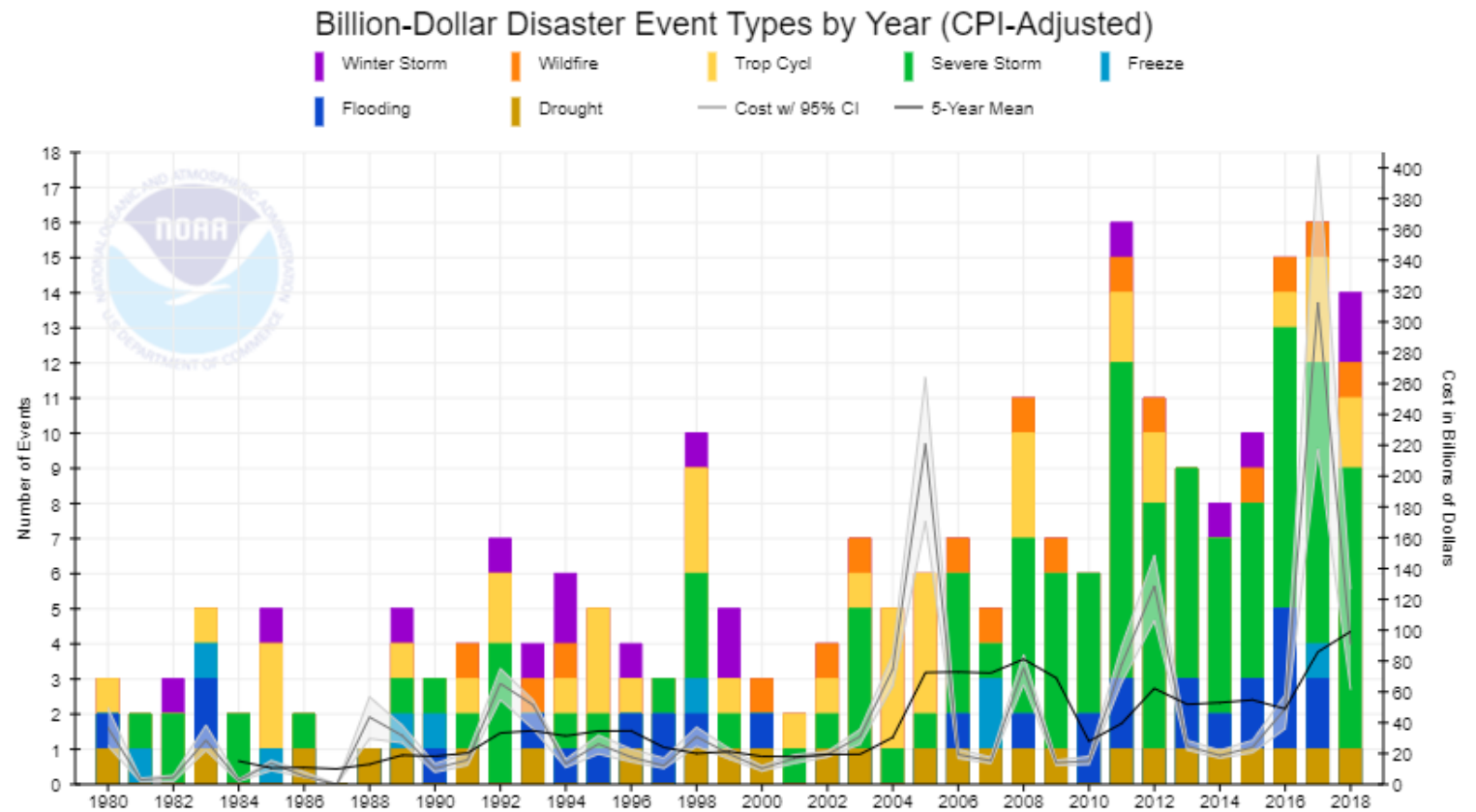
**Economic justification for
'when' flexibility**

‘When’ flexibility is intertemporal analog of
‘where’ flexibility

When
flexibility

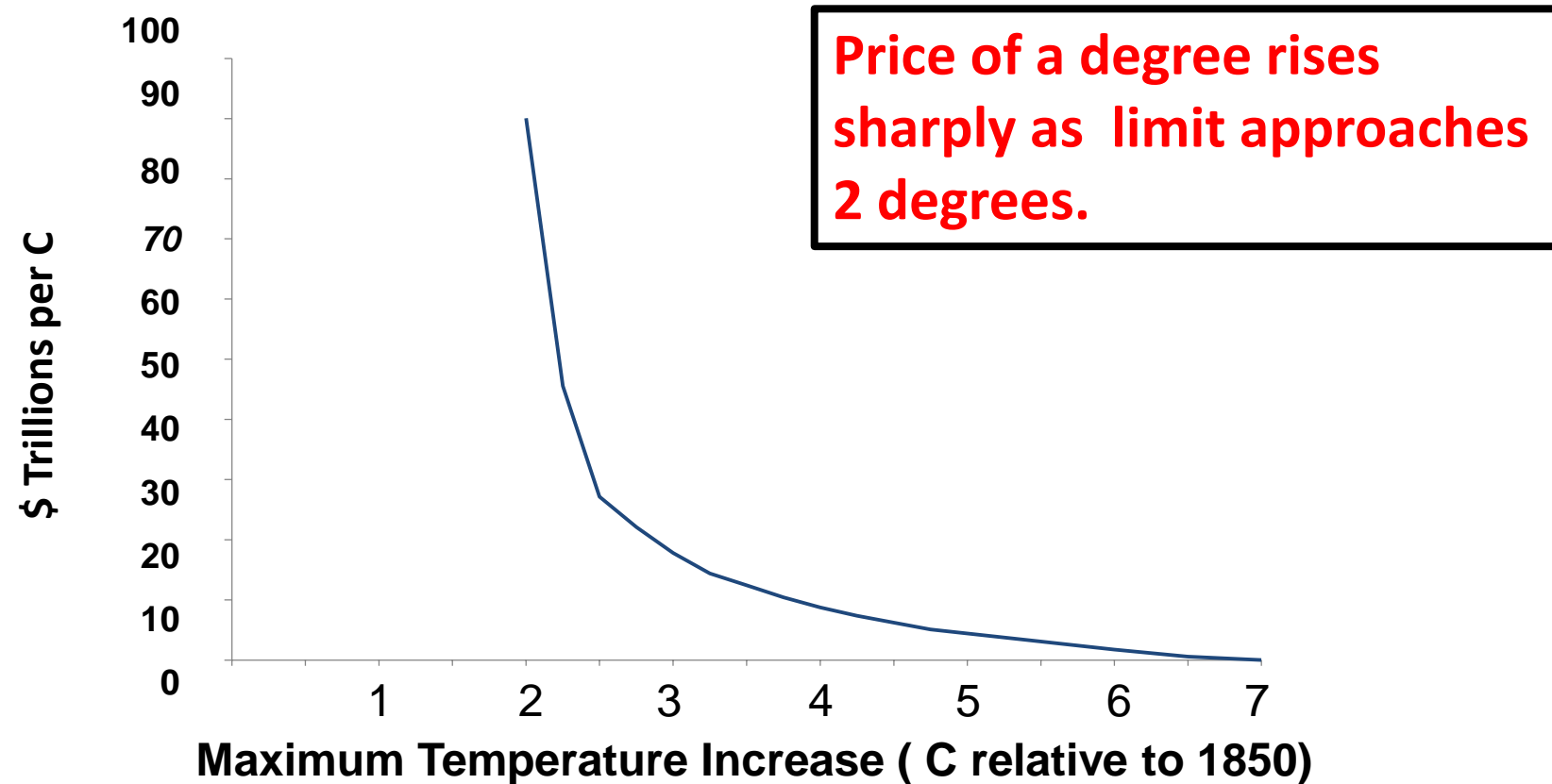
**Where
flexibility**

NOAA
impacts
chart for US
1980-2018



Source: <https://www.climate.gov/news-features/blogs/beyond-data/2018s-billion-dollar-disasters-context>

Marginal Mitigation Costs



From Geoffrey J. Blanford et al (2015). "The Price of a Degree: Marginal Mitigation Costs of Achieving Long-Term Temperature Targets". EPRI, Palo Alto, CA.

Gamechangers



Mother Nature speaking out loud and clear.



Run out the clock on 'when' flexibility.



Question is no longer 'when'?

It is 'how much' now?

**"When a man knows he is to be hanged
in the morning, it concentrates his mind
wonderfully."**

Samuel Johnson