



COLUMBIA LAW SCHOOL

SABIN CENTER FOR CLIMATE CHANGE LAW

**Legal Tools to Force Corporate
Adaptation to Climate Change:
Environmental Impact Assessment,
Energy Regulation and License
Conditions**

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Overview of Presentation

Two nearly universal regulatory systems at the intersection of corporate actions and climate adaptation:

- Environmental impact assessment

- Public utility regulation

Example of use: Electric power companies

- Effects of climate change

- Methods of adaptation

- Case study: Consolidated Edison Company of New York after Hurricane Sandy

Broader application

EIA Legislation: Some Key Jurisdictions

USA	1970:	National Environmental Policy Act (NEPA)
Brazil	1981:	Environmental Policy Act No. 6.9381
EU	1985:	Directive 2011/92/EU (supersedes 1985 Directive)
India	1986:	Environment (Protection) Act
South Africa	1998:	National Environmental Management Act
Australia	1999:	Environment Protection and Biodiversity Conservation Act
China	1979/2002:	Law on Environmental Impact Assessment (broadens EIA requirements in 1979 Env. Prot. Law)
Russian Fed.	2002:	Federal Law No. 7-FZ on Environmental Protection

EIA Legislation: Geographic Regions

Tseming Yang, Santa Clara University Law School

U.N. Regions	Countries with EIA	Countries without EIA
Africa	48	6
Asia Pacific Group	53	3
Eastern European Group	23	0
Latin American & Caribbean Group	29	4
Western European Group & Others	28	2
<i>World Total</i>		196
Multilateral Development Banks	7	2

Environmental impact assessment

U.S. Council on Environmental Quality – Guidelines on climate change and NEPA (issued under President Obama in 2016; revoked by President Trump in 2017)

European Commission – Guidance on Integrating Climate Change and Biodiversity Into Environmental Impact Assessment (2013)

NEPA Caselaw

Agencies should think about the future condition of projects and their affected environment when conducting NEPA reviews

American Canoe Ass'n v. White (N.D. Alabama, 2003)
(agency failed to consider future condition of project)

California ex rel. Imperial County Air Pollution Control Dist. v. U.S. Dept. of Interior (9th Cir. 2014) (agency properly considered future conditions when establishing “no action” alternative)

Klamath-Siskiyou Wildlands Center v. Bureau of Land Management (9th Cir. 2004) (agency failed to consider future effects of other actions in cumulative effects analysis)

Oregon Natural Resources Council Fund v. Brong (9th Cir. 2007) (agency failed to consider future effects of other actions in cumulative effects analysis)

U.S. State and Local Governments

Jurisdiction	EIA Statute	Agency and Judicial Interpretations
California	CA Environmental Quality Act (CEQA)	Revisions, <i>CEQA Guidance</i> (2010) <u>Cases</u> : several different decisions on CEQA and SLR (see next slides)
Massachusetts	MA Environmental Policy Act (MEPA)	<i>Draft MEPA Climate Change Adaptation and Resiliency Policy</i> (2015)
New York	State Environmental Quality Review Act (SEQRA)	<i>Commissioner's Policy – Climate Change and DEC Action</i> (2010) <u>Case</u> : Residents for Sane Trash Solutions v. U.S. Army Corps of Engineers (SDNY 2014)
New York City	City Environmental Quality Review Act (CEQR)	<i>CEQR Technical Manual</i> (2014)
Washington	State Environmental Policy Act (SEPA)	<i>WSDOT, Guidance for NEPA and SEPA Project-Level Climate Change Evaluations</i> (2014)

Sabin Center Model Protocol: Assessing the Impacts of Climate Change on the Built Environment Under NEPA and State EIA Laws

Buildings and Infrastructure: Agencies should account for climate change in the following contexts:

- **Future baseline conditions / no action alternative**
- **Purpose and need for project**
- **Project design, location, operation**
- **Vulnerability of affected environment and resources**
- **Implications for the environmental consequences of the project**

Public Utility Regulation

National electricity regulators

Federal Energy Regulatory Commission (FERC)

Office of Gas and Electricity Markets (Ofgem)

Council of European Energy Regulators

State public utility commissions (U.S.)

Applies to regulated entities only

All seek system reliability

Widespread variation among states

Transparency

Public participation

Acknowledgment of climate change

Reporting requirements

Municipalities

- Spatial planning

- Building regulations

- Emergency shelters and “cool rooms”

Reliability standards

- North American Electric Reliability Corporation

- European Network of Transmission System Operators for Electricity

Effects of climate change on urban electric systems

Too much water

Sea level rise

Storm surge

Inland flooding

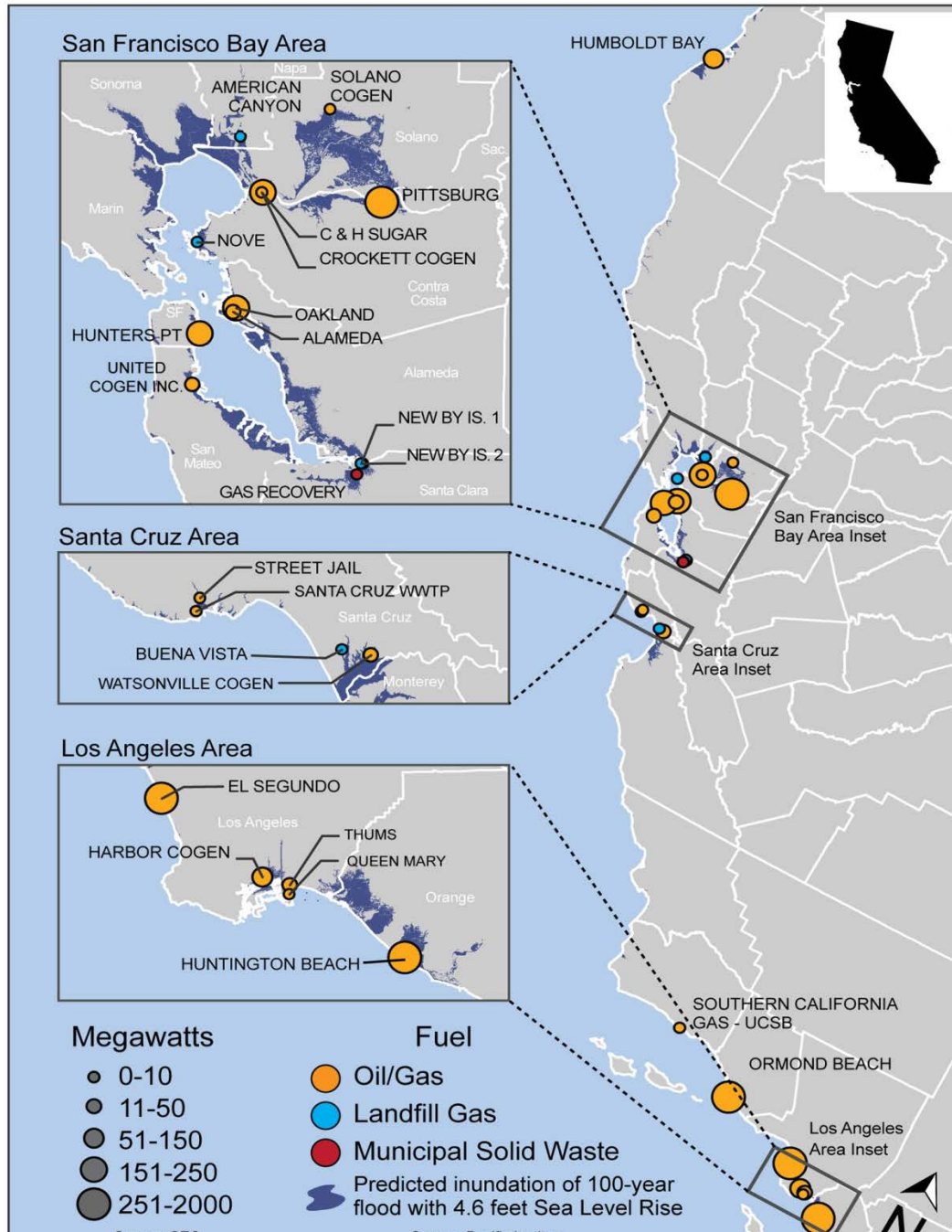
Heavy precipitation







California Power Plants Potentially at Risk from Sea Level Rise



Effects of climate change on urban electric systems -- 2

Too little water

Reduced hydro generating capacity

Low flows for cooling water





Effects of climate change on urban electric systems -- 3

Heat

Higher electrical demand for cooling

Reduced ability of wires to carry power

Reduced efficiency of thermoelectric power generation

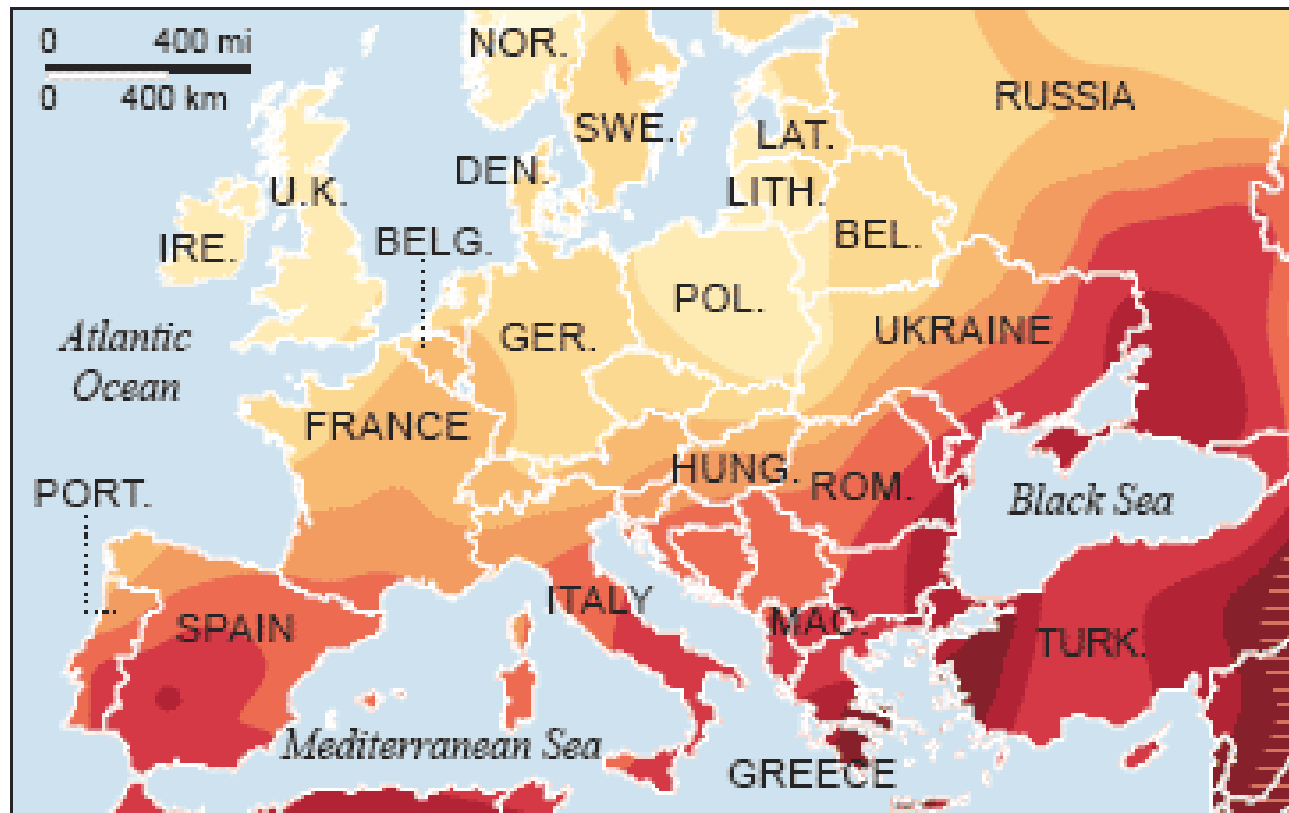
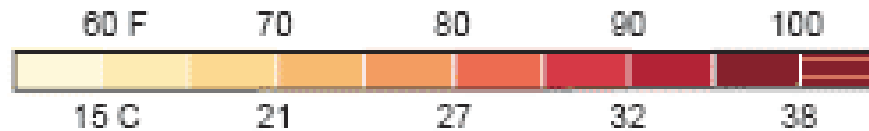
Warm receiving waters for cooling water discharge

Reduced solar cell effectiveness

Oppressive heat settles in Europe

Officials warned citizens, especially the elderly, to stay indoors and drink plenty of water during the summer's second major heat wave.

Temperature,
Wednesday,
10 a.m. EDT



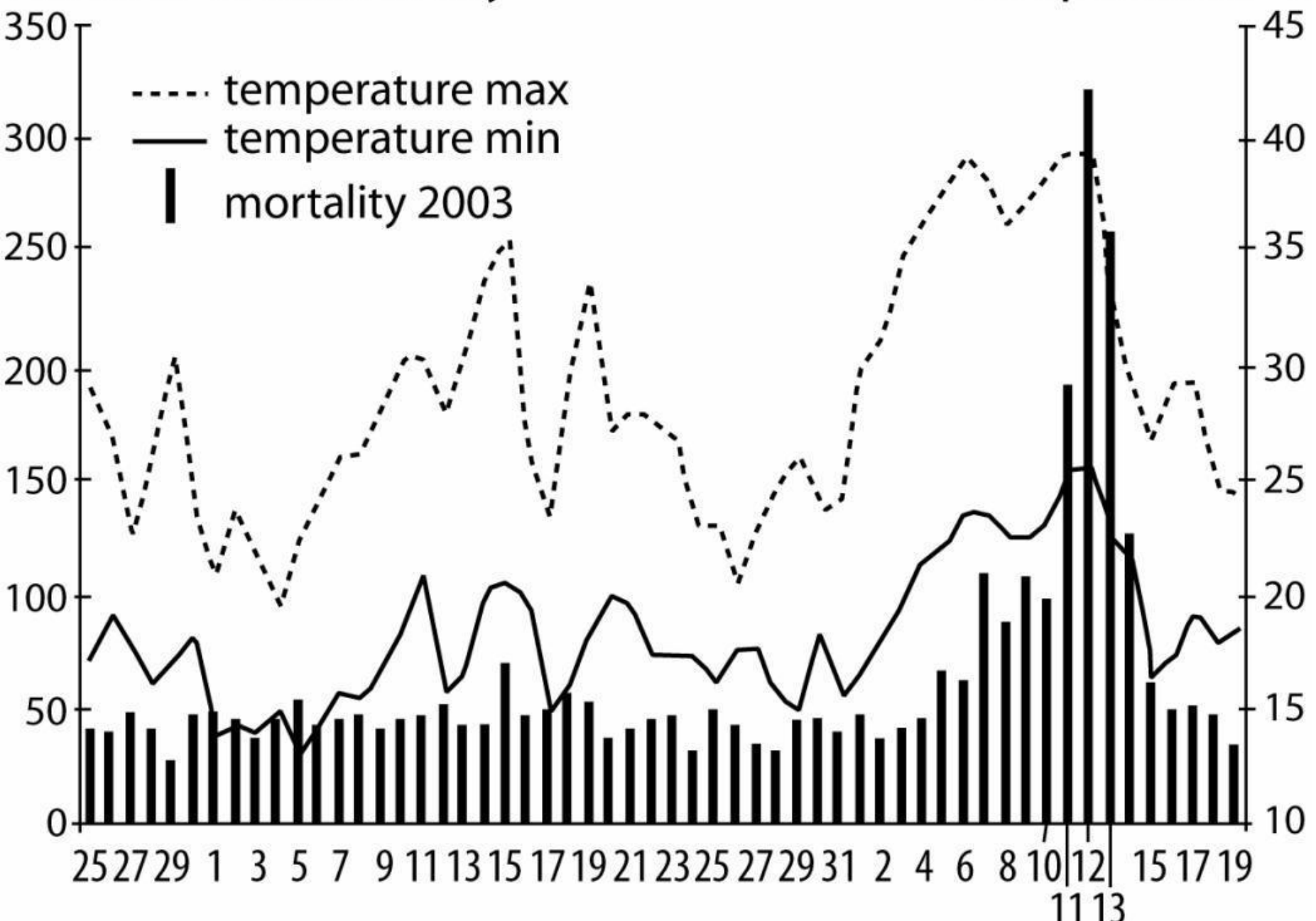
NOTE: Average temperatures from highest to lowest elevation

SOURCE: Weather Underground

AP

Number of deaths/day

Temperature °C



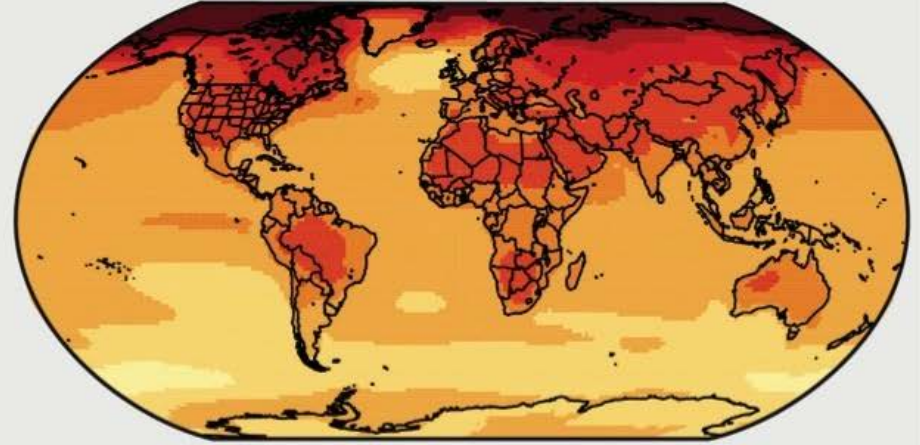
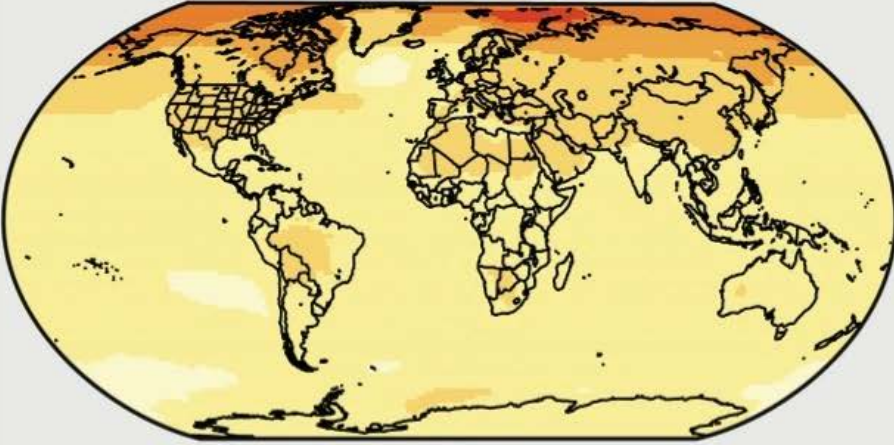
June 2003 ←----- July 2003 -----→ August 2003 -----→



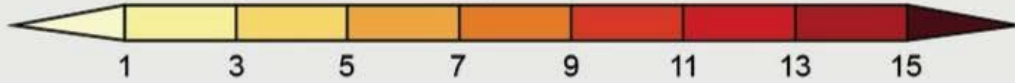
Largest Temperature Increases Over Continents

Low Pathway (RCP 2.6)

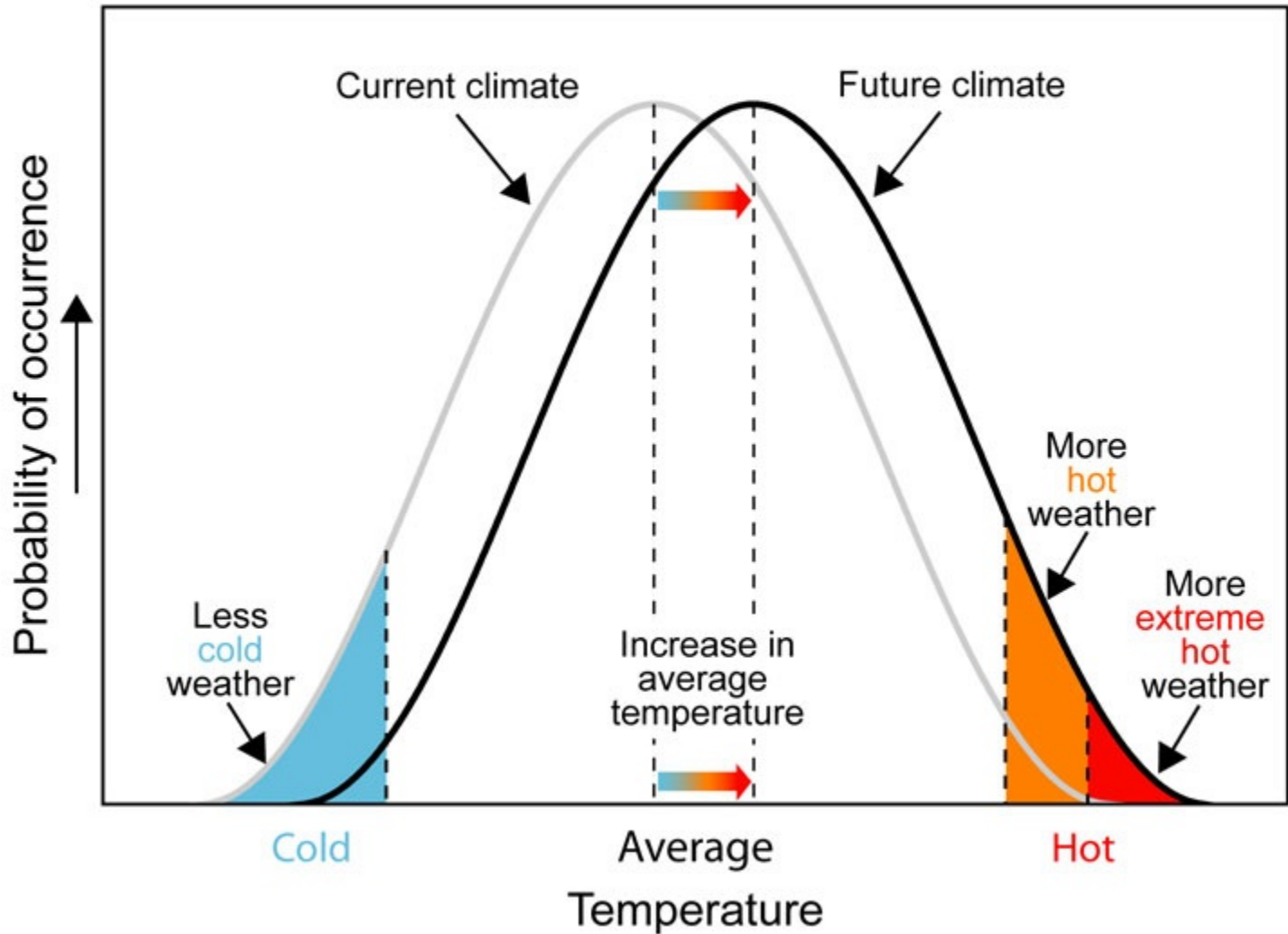
High Pathway (RCP 8.5)



Degrees F



Future Climate Shift



Effects of climate change on urban electric systems -- 4

Extreme events

Heavy snow and ice

High wind speeds

Landslides, mud slides

Wildfires

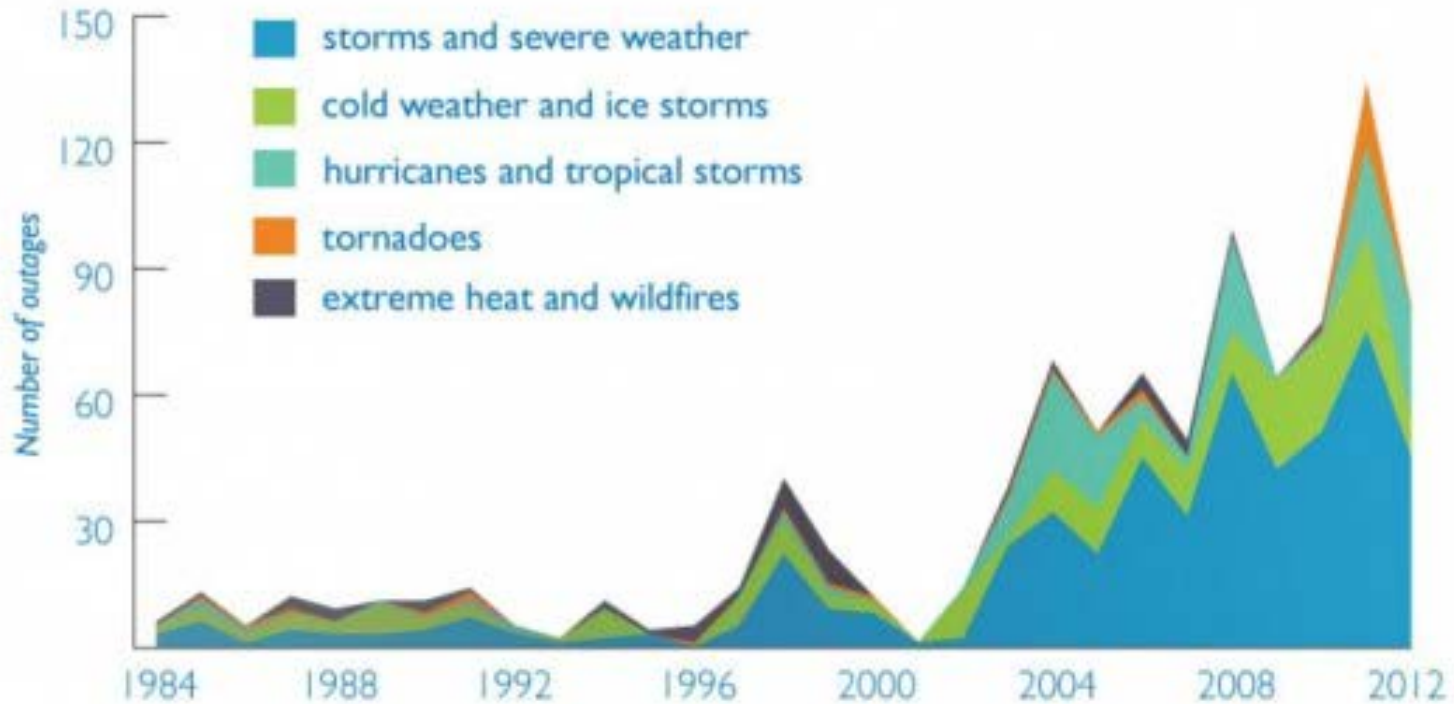






Extreme Weather Is Causing More Major Power Outages

(major = at least 50,000 customers affected)



Adaptation methods for urban electric systems

Hardening

- Flood protections

- Elevate equipment

- Move equipment to less vulnerable areas

- Move wires underground

- Heat dissipation

- Technical standards for equipment

Adaptation methods -- continued

Decentralized grids

- Distributed generation and storage

- Smart grid

Reduce peak energy demand

Emergency response preparations

Legal processes to improve resilience of urban electric systems -- 4

Flood mapping

U.S. National Flood Insurance Program

EU Floods Directive

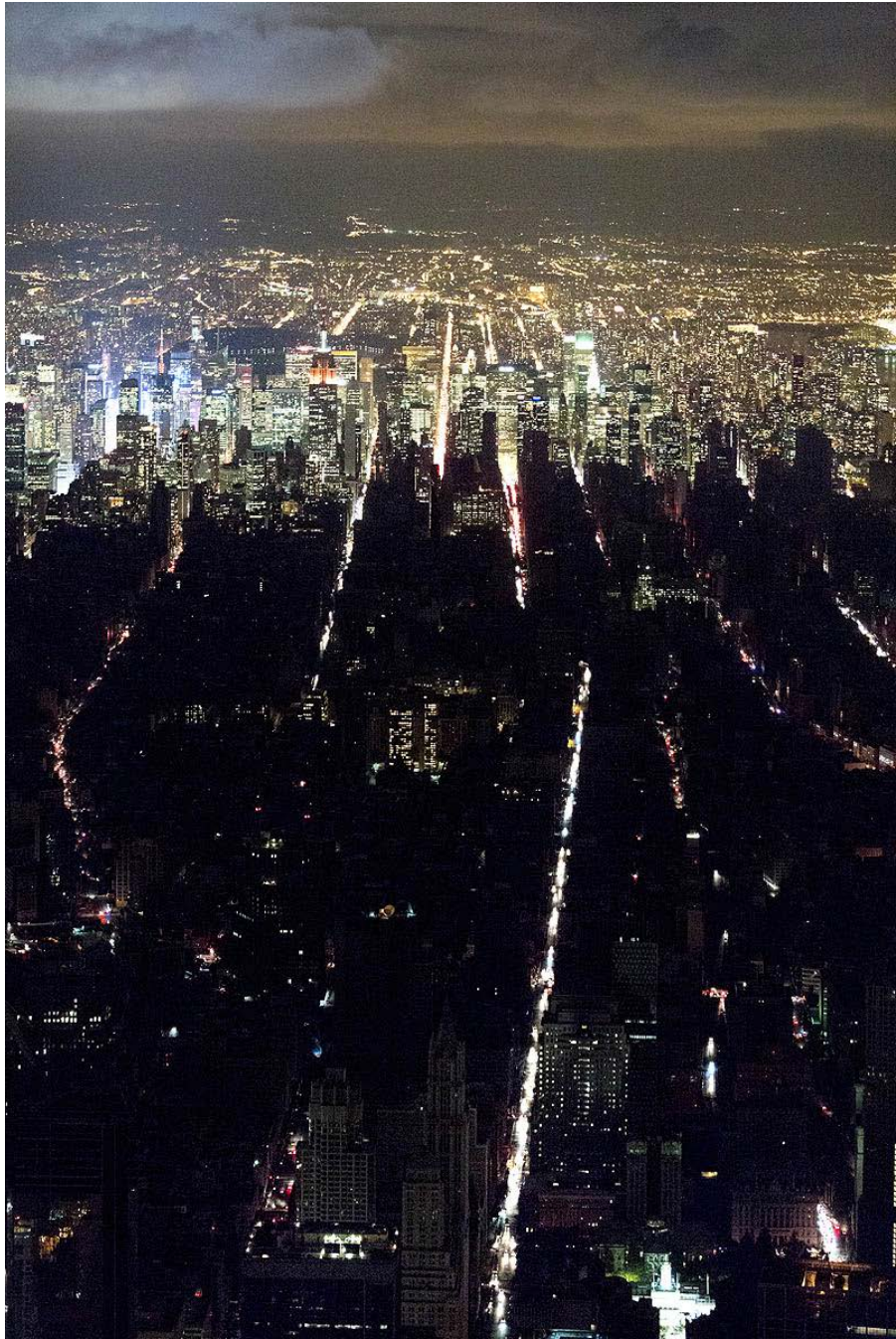
Securities disclosure

U.S. Securities & Exchange Commission –
Guidance Regarding Disclosure Related to
Climate Change (2010)

Case study: Consolidated Edison Company of New York after Hurricane Sandy (2012)









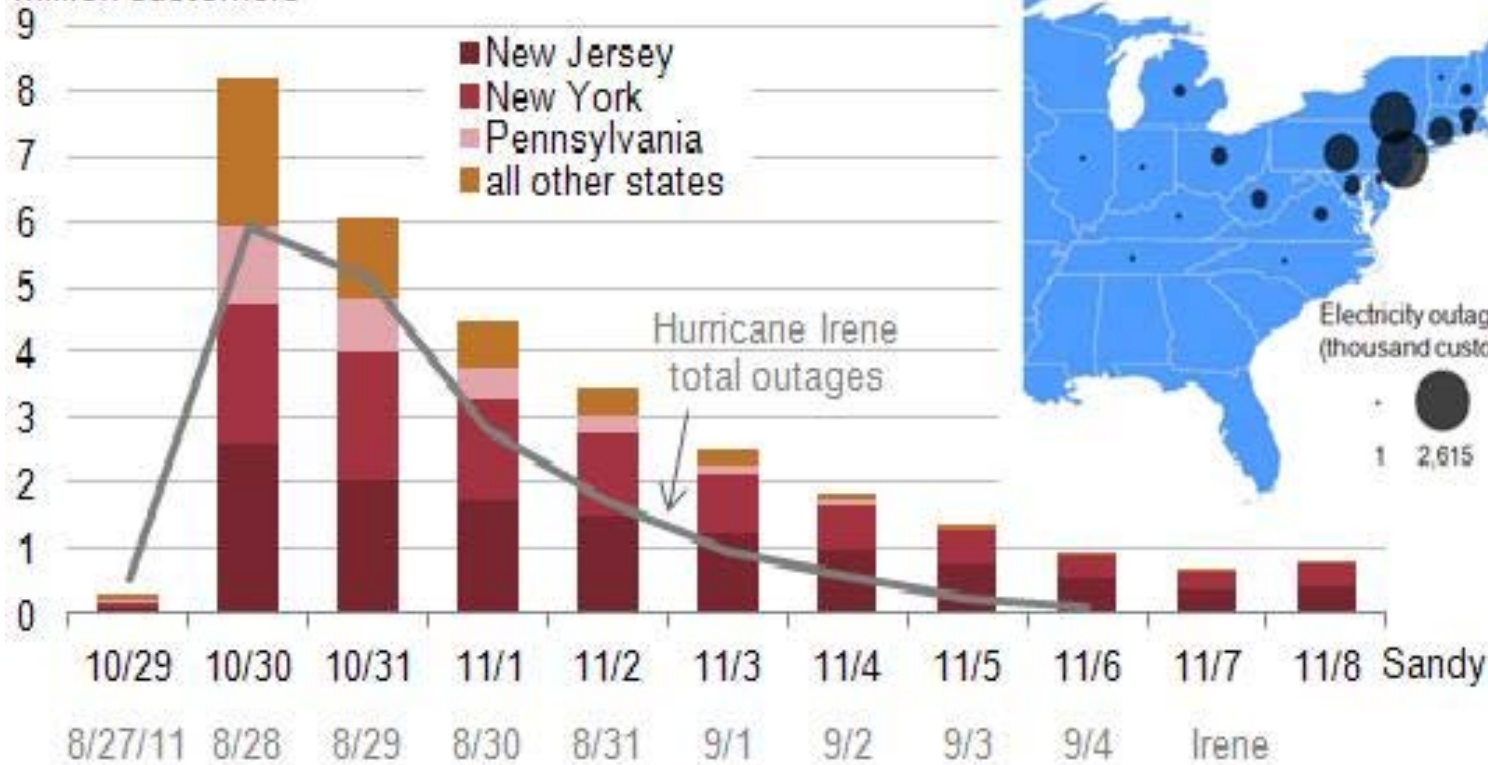
NY
1

LIVE CAM 12:12 PM



Hurricane Sandy power outages

million customers



Proceedings Before New York Public Service Commission

Petition by Columbia and other NGOs

Consolidated Edison rate increase request

NGO interventions

Presentations by climate scientists

Adjudication

Negotiation

Settlement

New York Public Service Commission

Decision – 20 February, 2014

“The obligation to address these considerations should be broadened to include all utilities. The State’s utilities should familiarize themselves with scientists’ projections for local climate change impacts ... We expect the utilities to consult the most current data available to evaluate the climate impacts anticipated in their regions over the next years and decades, and to integrate these considerations into their system planning and construction forecasts and budgets.”

Implementation

Development of further scientific information

Geographically-specific projections

Humidity as well as heat and storms

Modifications to technical standards

Formulation of adaptation strategies based on
projections

Broader application to force corporate adaptation to climate change

Environmental impact assessment

Public utility regulation

Emerging field: Securities regulation