CLIMATE CHANGE AND ENERGY: LEGAL IMPLICATIONS AND OPPORTUNITIES FOR MAINE & NEW HAMPSHIRE

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LAW
WHO AM I...
Jeff Thaler is the University of Maine’s first Visiting Professor of Energy Policy, Law & Ethics, a Visiting Professor at Maine Law School, and is Associate University Counsel. Jeff has been a successful trial, environmental and energy lawyer in Maine for several decades, and taught from nursery school to graduate school.

He has been for the past 10 years the attorney for all of UMaine’s floating deepwater wind projects and initiatives—handling all regulatory, permitting, contracting, and related issues at local, state and federal levels.
TO BEST MAKE ENERGY AND ENVIRONMENTAL POLICY DECISIONS, YOU MUST FIRST PASS YOGI BERRA’S TEST…

If you don’t know where you’re going when you get there you’ll be lost.
Why Care about Energy Sources for Climate Adaptation?

“Energy is the golden thread that connects economic growth, social equity, and environmental sustainability.” — former U.N. Secretary General Ban Ki-moon

• [https://climatechangeandenergy.com/#/?section=introduction-to-energy-climate-change](https://climatechangeandenergy.com/#/?section=introduction-to-energy-climate-change)
About 65% of the world’s greenhouse gas emissions are from the burning of fossil fuels for energy to be used for heating, electricity, transportation and industrial processes.

ECONOMIC TRENDS

• 1974: 3 million out of state visitors per year to Maine, vs.
• 2004: 26 million out of state visitors per year to Maine

• Tourism has grown more than 5x since 1972-73, to about $6 Billion per year...which is roughly equivalent to-----
MAINE ENERGY USE TRENDS

• The Approximately $5.5 Billion Per Year Mainers Export to Purchase Fossil Fuels for Transportation, Heat, and Electricity Needs (Comparison: Maine State Budget is $6.5 Billion Per Year)

• About 90% of the Energy Mainers Use are Foreign (Outside of Maine) Fossil Fuels—Which Are Burned to Generate Energy and Additionally Generate------
Why Care about Fossil Fuels?
Relative CO2 Emissions

- Coal
- Oil
- Diesel Fuel
- Gasoline
- Propane
- Natural Gas
- Solar
- Wind
- Hydropower

lbs CO2/million BTU
Do You Want to See Increasing CO2 emissions?

Http://trillionthtonne.org/

(Estimated cumulative emissions from fossil fuel use, cement production and land-use change since industrialization began) (1760)

--Non-climate damages estimated to be $120 Billion in 2005 (human health, grain crop, timber yields, building materials, recreation, visibility of outdoor vistas)

--$62 Billion Coal electricity generation & $740 MM Natural Gas

--$56 Billion from ground transportation (oil-petroleum)

--$1.4 Billion from Heating with Natural Gas
National Research Council Conclusions

--Non-climate damages from electricity generation and transportation exceed $120 billion (2005)-- principally related to emissions of NO\textsubscript{x}, SO\textsubscript{2}, PM.

--A substantial underestimate because it does not include damages related to climate change, health effects of hazardous pollutants, ecosystem effects, or infrastructure and national security.

--Climate damages would likely be at least as large as non-climate damages.
Maine’s Ocean Energy Resources

- Off-shore Wind: 82% of Maine coastal waters have Class 5 or stronger winds—highest in Northeast
- Legislative goal: 3-5,000 MW in next 10 years
- EPRI study: 250 MW of tidal power capacity
- Some potential wave energy development
The annual wind speed estimates for this map were produced by AWS Truepower using their MesoMap system and historical weather data.
New Hampshire - 90 m Offshore Wind Speed

The annual wind speed estimates for this map were produced by AWS Truepower using their MesoMap system and historical weather data.
VolturnUS Towed at Bucksport Bridge
At the Castine Site
Ocean Permitting and Leasing Roadmaps


Decarbonization & Municipalities

https://carbonneutralcities.org/about/


“Challenges and Opportunities for Deep Decarbonization through Strategic Electrification under the Utility Regulatory Structures of the Northeast” 2018 Hopkins, Takahashi & Lis
Preparing for Climate Change in New Hampshire and Maine

• https://www.georgetownclimate.org/adaptation/state-information/new-hampshire/overview.html

• https://www.georgetownclimate.org/adaptation/state-information/maine/overview.html

• https://www.nhpr.org/post/nh-town-meeting-voters-approve-range-responses-climate-change#stream/0
Model Protocols for Climate Change Impact Analysis by Government Decisionmakers

http://columbiaclimatelaw.com/program-areas/environmental-assessment/eia-protocols/

Model Municipal Ordinances for Solar and Wind Project Siting, and Green Buildings

Legal Resources for Climate Change Adaptation

- [http://columbiaclimatelaw.com/resources/adaptation-database/#landuse](http://columbiaclimatelaw.com/resources/adaptation-database/#landuse)

- **Federal Statutory and Regulatory Violations**
  - Pollution Control Statutes
  - Occupational Safety and Health Act
  - Americans with Disabilities Act

- **Rules Governing Federal Agency Projects and Activities**
  - United States Army Corps of Engineers
  - Environmental Impact Assessment
  - Natural Resource Planning

- **Common Law Doctrines**
  - Tort Law
  - Takings
  - Public Trust

- **Local Land Use and Planning**
- Building Codes
- Federal Flood Mapping, Flood Insurance, and Disaster Assistance
- Public Utility Commission Actions
- Contractual, Fiduciary and Professional Obligations
  - Risk Disclosures, lender due diligence, expert advice
  - Professional licensing boards and practices

- **Insurance and Reinsura**
115 communities
https://www.mrcmaine.org/history/
RWS aka ecomaine—73 communities
Solar Opportunities and Municipalities


- EPA Local Government Solar Portal [note: Out of date!]

- [https://www.epa.gov/repowertoolbox/local-government-solar-project-portal#infotable](https://www.epa.gov/repowertoolbox/local-government-solar-project-portal#infotable)
New Hampshire Town And City Energy Efficiency and Renewable Energy Programs for New Hampshire Municipalities

https://www.nhmunicipal.org/TownAndCity/Article/622

Maine Adaptation Toolkit
LD 564  An Act To Encourage the Installation of Solar Panels on Residential Property
LD 1127 An Act To Expand Community-based Solar Energy in Maine
LD 1191 An Act To Exempt Solar Energy Equipment from Property Tax
LD 273  An Act To Require Transmission and Distribution Utilities To Purchase Electricity from Renewable Resources at Certain Prices
LD 334  An Act To Change the Definition of "Renewable Capacity Resource"
LD 922  An Act To Provide a Property Tax Exemption for Renewable Energy Fixtures
LD 1027 An Act To Eliminate the 100-megawatt Limit on Hydroelectric Generators under the Renewable Resources Laws
LD 1119 An Act To Authorize a General Fund Bond Issue To Support Investments in Energy Efficiency and Renewable Energy in Municipalities and SAUs
LD 1279 An Act To Modernize Maine’s Renewable Portfolio Standard
LD 1401 An Act To Study Transmission Solutions To Enable Renewable Energy Investment in the State
LD 1430 An Act To Create Tax Equity among Renewable Energy Investments
LD 1465 An Act To Diversify Maine's Energy Portfolio with Renewable Energy
LD 1494 An Act To Reform Maine’s Renewable Portfolio Standard
LD 1562 An Act To Encourage the Use of Renewable Energy
4. Adaptation and resilience strategies. The updated climate action plan must address the impacts of climate change upon the State and provide strategies and actions for climate adaptation and resiliency. These strategies must include implementation guidelines that:

A. Prioritize the welfare of the State's citizens and visitors and recognize and foster the value of the State's natural resources;
B. Encourage diversity, inclusion and equity;
C. Provide education and training opportunities when appropriate;
D. Build upon existing global, national and state plans and partnerships for addressing climate adaptation, emergency preparedness and disaster risk reduction;
E. Encourage investments that prevent and proactively mitigate risk;
F. Encourage, foster and utilize the most recent scientific and technical information available; and
G. Incorporate means for measuring progress.
Climate Change is an existential threat on the scale of nuclear war—threats to our sense of place, identity, way of life, expectations of the future, protection of our children and to defend our tribe...BUT it is getting worse (415 ppm!!), not better—WHY??
Climate Change is not concrete, immediate, visible
Dealing with CC requires short-term costs and reductions in living standards to mitigate against higher but uncertain losses far in the future
There are no pressing deadlines, so it gets pushed to the future
Uncertainty justifies inaction
CC challenges our innate wiring: it is complex, unfamiliar, slow moving, invisible, intergenerational
CC is not caused by an external enemy—we are all personally responsible for increases ie emissions, which leads to denial
DON'T EVEN THINK ABOUT IT

WHY OUR BRAINS ARE WIRED TO IGNORE CLIMATE CHANGE

GEORGE MARSHALL

How Bad Are Bananas?
The Carbon Footprint of Everything

MIKE BERNERS-LEE

"I can't remember the last time I read a book that was more fascinating and useful and enjoyable all at the same time."

BILL BRYSON
WHERE IN THE WORLD….. narsarsuaq/