Serving the people of the American West, the nation, and the world through creative, interdisciplinary research, bold, inclusive teaching, and innovative problem solving in order to further true sustainability for our lands, waters, and environment.
CU on the Weekend
Keeping Politics from Derailing Critical Climate Action

ALICE MADDEN
EXECUTIVE DIRECTOR, GETCHES-WILKINSON CENTER COLORADO LAW
NOVEMBER 4, 2017
Protecting the Environment and addressing Global Warming weren’t always political issues.
The First Earth Day - 1970
Environmental Movement Takes Shape

Set off in part by highly visible environmental problems:
- Cuyahoga River burns (69);
- Love Canal illnesses (70s);
- DDT restricted / finally banned (70s);
- Three Mile Island (1979)
Environmental Movement Takes Shape

- Legal framework of environmental protection gains strength
  - EPA established (1970)
  - Clean Air Act (1970)
  - Clean Water Act (1972)
  - Endangered Species Act (1973)
Environmental Movement Takes Shape...

- Founding of major environmental advocacy groups

Bipartisan Concern

- Progress made under President Nixon

- During Reagan presidency, the Republican-led senate sent a letter to EPA Administrator Lee Thomas requesting two studies on climate change

  “There is a very real possibility that man – through ignorance or indifference, or both – is irreversibly altering the ability of our atmosphere to perform basic life support functions.”

  - Senate Committee on Environment and Public Works, September 12, 1986

- Montreal Protocol Treaty signed in 1987 to address Ozone depletion (enacting legislation passed in 1990 via CAA)
Bipartisan Concern...

2008: Strange-bedfellow, bipartisan support is the mainstay of Al Gore’s *We Can Solve It* campaign.

- Pelosi/Gingrich
- Sharpton/Robertson
How/Why Did Climate Change Become Politicized?
Powerful Interests with Deep Resources

Environmentalism building momentum; fossil fuel stakeholders began to worry

- **Follow the Money**
  - 1980: Koch brothers decided to spend vast amounts of their resources to elect conservatives
  - Early 2000s: Exxon spent $55 million on lobbying over six years
  - 2002-2010: Drexel University study - $558M from 140 philanthropic foundations to 91 “CCCM” organizations
  - 2011: Koch brothers spent $24M to fund free-market and libertarian think tanks

- **Scale of money at stake**
  - 2012 McKibben article set a ceiling of 565 gigatons (GT) carbon that can be burned to limit warming to 2°C above pre-industrial levels.
  - Meanwhile, fossil fuel companies had proven coal and oil reserves of over five times that.
  - A 565 GT carbon budget (keeping remainder in the ground) equated to **writing off $20 Trillion in assets**
The Big Picture

How relationships between entrenched interests collaborate with think tanks and CCCM orgs to promote climate skepticism with the general public.
Tactics to Promote CCCM

- Funding conservative think tanks
  - Produce environmental skepticism literature – including casting doubt on climate science
- Direct corporate funding of climate skeptic information
- Funding “astroturf” organizations posing as grassroots efforts
- Labeling environmentalists as extremists and anti-America
- Successfully pressured mainstream media to present “both sides” of climate debate
- Revolving door between political office, conservative think tanks
Role of Conservative Think Thanks: Heartland and ALEC

- **ALEC – 501(c)(3) conservative think tank that advocates free-market policies**
  - Propagates model legislation through its network of about 2,000 legislators
  - As many non-profits, does not disclose membership or sources of funding
    - Awarded Charles and David Koch its Adam Smith Free Enterprise Award in 1994
    - Received $1,474,200 from Exxon Mobil between 1998 and 2012
    - Received $150K from Koch brothers in 2011

- **Heartland 501(c)(3) libertarian think tank**
  - Periodic magazines sent to elected officials: Economy, Health, Environment
    - Its 2009 "International Conference on Climate Change" received $47M in sponsorships from energy companies and conservative foundations
    - Received $25K from Koch in 2011 and $200,000 in 2012

- **ALEC & Heartland frequently work together**
  - Rollback renewable portfolio standards, net metering
  - Mandate the teaching of climate change denial in public schools (bills CO, OK, AZ)
Study of CCCM organizations from 2002-2010 showed:
- $558M in traceable income from 140 philanthropic foundations to 91 CCCM organizations (with total income over $7B)
- Largest donor foundations: Donor’s Trust and Donor’s Capital Fund
  - Gave more than $78M
  - These donor directed funds flow through foundations, preserving the anonymity of CCCM resources
- Conservative Think Tanks were largest recipients of foundation giving
  - American Enterprise Institute, Heritage Foundation, and Cato Institute combined received over 36% of funding put toward CCCM organizations
Funding the CCCM cont.

- Greenpeace published similar numbers in 2013:
  - Found nearly $120M funneled to more than 100 CCCM organizations through Donor’s Trust and Donor’s Capital Fund between 2002 and 2010

- Koch-run foundation Knowledge and Progress Fund initiated a pattern of large grants to Donor’s Trust in 2008 – roughly when Koch’s traceable giving to CCCMs declined
Disseminating CCCM Materials

- Study of 141 books that promote environmental skepticism showed >92% had a clear link to conservative think tanks.

- 45 of 50 conservative think tank websites that discuss environmental issues promoted science skepticism.

- In 2015 accusations surface that Exxon had spread doubt about climate science despite its own research that supported the validity of climate change.
  - Inside Climate News four-part series; LA Times; Columbia University’s Graduate School of Journalism.
  - Harvard researchers look through the Exxon documents from 1977 to 2014 and conclude that Exxon misled the public.
  - Found that as documents were more publicly accessible, they were more likely to cast doubt on climate science.
Where Are We Now?

THE SCIENCE
Definition and Purpose of Peer Review

Definition
The peer review process is integral to scholarly research. It is a process of subjecting research methods and findings to the scrutiny of others who are experts in the same field. The process is considered essential.

Purpose
The process is designed to prevent dissemination of irrelevant findings, unwarranted claims, unacceptable interpretations, or personal views. It relies on colleagues that review one another’s work and make an informed decision about whether it is legitimate, and adds to the large dialogue or findings in the field.

Surveys of the peer-reviewed scientific literature and opinions of experts show a 97–98% consensus that humans are causing global warming.
Reality of Climate Change

Past 115 years were warmest in modern history. Business as usual: 9-11°F increase by 2090

Global climate change has already had observable effects on the environment. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal ranges have shifted and trees are flowering sooner. Effects that scientists had predicted in the past would result from global climate change are now occurring: loss of sea ice, accelerated sea level rise and longer, more intense heat waves. Climate.NASA.gov
~40% of US population could be effected by sea level rise
Pentagon describes climate change as a “threat multiplier”

- Extreme weather and water scarcity will intensify existing social conflict
- When rainfall is significantly below normal, the risk of a low-level conflict escalating to a full-scale civil war approximately doubles the following year
- Effects of climate change, plus economic, social, and political problems create a high risk of violent conflict

“Climate change is impacting stability in areas of the world where our troops are operating today.”

- Secretary of Defense James Mattis during his confirmation hearing in January, 2017

The naval base at Norfolk has had to build two levels to its docks to accommodate rising sea levels. The water level has risen about 1 1/2 feet since 1920.

Yuki Noguchi/NPR
UN Climate Chief: 3 Years to Bend Emissions Curve

“...should emissions continue to rise beyond 2020, or even remain level, the temperature goals set in Paris become almost unattainable.”

Christiana Figueres
former Executive Secretary of UNFCCC
Where Are We Now?

LAW & POLICY
Boulder-based Namasté Solar’s Blake Jones introduces President Barack Obama during his Denver visit to sign the ARRA into Law.

- February 17, 2009
Trump Administration

- Propose auction of O&G leases of 77M acres of waters in the Gulf of Mexico (48B barrels of oil / 141T cf of gas = 28B tons of CO2).
- EO - scrap CPP: Power sector cut 32% CO2 by 2030 (870M tons) avoiding 1,500 - 3,600 premature deaths and 90K asthma attacks in children. (Trump Admin - poses no health hazards.)
- EO also downplays future costs GHG, walks back tracking of fed carbon emissions, rescinds 2016 moratorium on coal leases on fed lands, and strikes efforts to prepare for climate change impacts, including threats to national security.
Trump Administration

- Suspended study of health risks to those who live near mtn-top coal mines in Appalachia.
- Weakest EPA enforcement in 24 years (proposed 23% cut to enforcement; 31% cut to entire EPA).
- Scrubbed climate content on multiple Agency web sites
- Propose shrinking National Monuments e.g. Bears Ears
- Pulled out of Paris Climate Accord
- EO to review Obama ban of offshore gas drilling (Arctic)
States & Local Governments

Non-federal U.S. actors: States & Local Governments

- **We Are Still In campaign:** 9 states, hundreds of cities and over 1,700 corporations in the U.S. have declared they will continue to implement policies and practices to meet commitments of the Paris accord.

- **California:** committed to cut GHG emissions to 40% below 1990 levels by 2030.

- **RGGI:** Regional Green House Gas Initiative is a cooperative cap and trade effort among 9 states: CT, NY, DE, ME, MD, MA, NH, RI and VT

> “Within the past month, California and the RGGI states have shown the world there are still climate leaders here in the U.S.”

*Rhea Suh, former president of NRDC - August, 2017*
Most states on track to meet CPP goals

“Coal-fired power plants — the most climate-polluting source of electricity — are shutting down across the country. More than 500 closed between 2002 and 2016, and additional plants are slated for closure, according to the DOE. Electric utilities are replacing them with cheaper, cleaner natural gas. And renewable sources, such as wind and solar, are booming. Prices have plummeted.”

Voice of America News Nov 1, 2017
U.S. Climate Change Litigation
Columbia Law School and Arnold & Porter

FEDERAL STATUTORY CLAIMS
- Clean Air Act [152]
- End. Species Act (& other protections) [75]
- Clean Water Act [19]
- NEPA [149 Cases]
- Freedom of Information Act [31]
- Other Statutes and Regulations [52]

CONSTITUTIONAL CLAIMS
- Commerce Clause [10]
- First Amendment [3]
- Fifth Amendment [6]
- Fourteenth Amendment [4]
- Other Constitutional Claims [13]

STATE LAW CLAIMS
- Industry Lawsuits [24]
- Environmentalist Lawsuits [25]
- State Impact Assessment Laws [134]
- Enforcement Cases [15]
- Utility Regulation [14]

COMMON LAW CLAIMS [16]

PUBLIC TRUST CLAIMS [18]
What is Being Done? Legal Challenges

- Challenges to rollbacks of EPA and DOI environmental regulations
  - e.g. facing a 16-state lawsuit, EPA dropped its decision to delay Obama-era ozone regs
- Our Children’s Trust Litigation (public trust doctrine)
What is Being Done? Legal Challenges

- Environmental damage litigation (public nuisance theory)
- Action against Exxon
  - NY AG Eric Schneiderman and MA AG Maura Healy - investigate Exxon for possible fraud against its shareholders and the public
  - SEC began investigating Exxon to determine if Exxon appropriately disclosed the business risks of climate change
  - Shareholder class action lawsuit
  - Shareholders approve proposal requiring Exxon to be more transparent
Where Are We Now?

MARKET FORCES
Market Forces

Renewables now dominate new US capacity

2015: gas fell to second behind wind and solar

2016: solar was 40% of new additions (including DG) and wind was another 30%

Source: U.S. Energy Information Administration, Preliminary Monthly Electric Generator Inventory

Principal contributor: Suparna Ray
Market Forces

Renewable prices are plummeting

No new coal leases despite Trump Administration lifting coal moratorium

No new coal plants planned
Market Forces

Mass manufactured technologies inherently reduce in cost per unit with increased scale.

Both electric vehicles and stationary storage will benefit from cost reductions with increased scale.

Slide credit: Julie Blunden, Founder of Julie Blunden Consulting
“We are convinced the future is electric”

- Dave Prystash, GM CFO Global Product Development, Purchasing & Supply Chain, June 14, 2017

“American automotive giant announced that it is working toward an all-electric, zero-emissions future. That starts with two new, fully electric models next year—then at least 18 more by 2023.”

- WIRED Oct. 2, 2017
Clean Energy Financing

“More than $90 billion in green bonds has been floated so far this year, a level expected to reach $100 billion by year’s end, with some predictions as high as $130 billion. This is a dramatic increase from the $8 or $9 billion in financing just a few years ago.”

Christiana Figueres, Washington Post, Nov 1, 2017
Where Are We Now?

PUBLIC OPINION
Public Opinion on Climate Change
PEW – 2016

48% believe human activity is the primary cause of climate change (about the same as in 2014 & 2009)

Only 1/3 of the public gives climate scientists high marks for their understanding of climate change

Trust and confidence varies widely depending on political orientation
Public Opinion on Climate Change
Gallup - 2017

68% of Americans believe the increases in Earth’s temperatures are mainly due to the effects of pollution from human activities – highest ever

NOTE: Gallup’s numbers consistently higher than Pew’s

American’s concern regarding global warming has fluctuated since the 90s
### Policy Support 2014

<table>
<thead>
<tr>
<th>Policy Item</th>
<th>Support</th>
<th>Oppose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund research into renewable energy sources</td>
<td>77%</td>
<td>21%</td>
</tr>
<tr>
<td>Regulate CO2 as a pollutant</td>
<td>74%</td>
<td>25%</td>
</tr>
<tr>
<td>Set strict CO2 limits on existing coal-fired power plants</td>
<td>63%</td>
<td>36%</td>
</tr>
<tr>
<td>Require utilities to produce 20% electricity from renewable sources</td>
<td>61%</td>
<td>38%</td>
</tr>
<tr>
<td>A carbon tax if refunded to every American household</td>
<td>44%</td>
<td>25%</td>
</tr>
</tbody>
</table>
Communicating Climate Science/Policy in a Politicized World

Step Up & Be a Thought Leader
Know your Stuff / Know their Stuff
Understand your Audience
Create Relatable Context
Provide a path to a Desirable Future

The Due Diligence of Successful Advocacy
Know your Stuff

World.org/weo/climate  Lists top 100 CC sites.

SkepticalScience.com & RealityDrop.com  Science-based rebuttals to climate deniers.

ClimateRealityProject.org  Cutting-edge com’s & grassroots engagement tools to break the dam of inaction & raise the profile of the climate crisis

Nat. Climate Assessment nca2014.globalchange.gov
A comprehensive database for policymakers about the scale and nature of the dangers posed by climate change
Know your Audience: The Six Americas

![Chart showing the distribution of public opinions on global warming in November 2016.](chart.png)

- **Alarmed**: 18%
- **Concerned**: 34%
- **Cautious**: 23%
- **Disengaged**: 5%
- **Doubtful**: 11%
- **Dismissive**: 9%

*November 2016, n=1,226*

**Highest Belief in Global Warming**
- Most Concerned
- Most Motivated

**Lowest Belief in Global Warming**
- Least Concerned
- Least Motivated
Designer News: “At myFACTS, we believe everyone is entitled to their own set of facts!”
Know your Audience’s Language

- Stability vs Change
- Order vs Complexity
- Familiarity vs Novelty
- Conformity vs Creativity
- Technology vs Regulation

Don’t Lose before you Start
To give Facts a Fighting Chance...

Choose the right messengers - Affiliations increase acceptance

The Pentagon calls climate change a de-stabilizing geopolitical force & a “threat multiplier.”

My meteorologist / uncle who’s a farmer / minister / boss / Fortune 500 says...

Strange Bedfellows, gather a wide range of diverse believers to cite as examples.

WINNING HEARTS & MINDS
Create Relatable Context

Unstable weather patterns; Jet stream shifting; Shorter winters; Earlier spring runoff; Erratic precipitation; Higher temps & longer droughts; Increased # & intensity of wildfires; Winter tornadoes.

*So how does any of that affect me?*

Jobs jobs jobs & Economic development.

Quality of life & economic security. Air quality, tourism, skiing, hiking, hunting, fishing, rafting, scenic beauty.

Visual proof: *Chasing Ice.*

**Our Quality of Life is at Risk**
Know your Audience

“Head-on attempts to persuade can sometimes trigger a backfire effect, where people not only fail to change their minds when confronted with the facts—they may hold their wrong views more tenaciously than ever.”

e.g. Iraq had WMDs
“Don’t sell the sausage, sell the sizzle.”
1940s super salesman, Elmer Wheeler

People are more willing to face a problem when they believe there are solutions.

1) Provide vision of a bright future (the sizzle).
2) Provide a pathway of relatable solutions & actions.
3) Only then discuss the consequences of inaction on what they hold dear.

“Without being incentivized, excited or inspired by an aspirational ideal of where we might go as a society, few of us will act.”

Futerra Communications
Take Action

In addition to educating yourself on the facts, using effective messaging, and voting...

- Home Energy Audit - DSIRE.org RE & EE incentives.
- Buy Energy Star! Wash clothes on “cold” cycle.
- Use a power strip / buy LEDs / Recycle / Compost.
- Reduce Waste – Invest in a water bottle & coffee mug.
- Program your thermostat (smart meter).
- Load those dishes - don’t rinse!
- Recycle your old cell phones / electronics.
- Stop catalogues / Share your magazines.
- Propel yourself or at least follow the speed limit.