

Yale Climate Conference

September 18-19, 2017 | Yale University

Summary Report & Climate Action Toolkit

Yale Kerry Initiative



INTRODUCTION

Climate change is the challenge of our time. The steps that this generation takes to address this growing threat will have a profound impact on our planet for decades to come.

Every year in the 21st century has been hotter than the last. Extreme weather events are causing serious damage and costs for people living in affected areas. So far this year there have been a near-record 15 weather and climate-related disasters across the United States, with economic losses exceeding \$1 billion each. The science is clear that climate change is increasing the severity and frequency of these extreme weather events.

The Paris Agreement on Climate Change was a significant step forward. It signaled a commitment by 195 countries to take the necessary steps to keep planetary warming below 2 degrees Celsius at maximum. Despite the current Administration's intention to withdraw, the United States must continue to be a leader in meeting this challenge. Seven in 10 Americans – along with many of America's most valuable companies – continue to support U.S. membership and the Paris goals. More than 2,300 U.S. organizations pledged to continue pursuing the objectives of the Paris Agreement. These pledges have been made not simply because climate change impacts are damaging and urgent, but also because the clean energy transition presents opportunities for economic growth, job creation, and healthier and more prosperous communities.

More needs to be done. On September 18-19, 2017, the Kerry Initiative at Yale convened the world's preeminent voices on climate change for a solutions-oriented dialogue on the way forward. Leading CEOs, governors, mayors, policymakers, scientists, and activists came together to send a powerful message: momentum towards a low-carbon and climate resilient future is unstoppable, and U.S. citizens are committed to taking action to achieve it.

This report summarizes the key findings and solutions that emerged at the conference, and describes how they can be used to drive action at the grassroots level. It provides a set of commonsense steps that individuals can take to make an impact, including a Climate Action Toolkit with simple and significant ways to engage. Taken together, these small steps can build powerful momentum that will make a real difference in meeting this critical challenge.



Advancing Bipartisan Leadership

Working Towards Commonsense Solutions

Speakers

MR. JAMES BAKER Former U.S. Secretary of State

Video Messages:

MR. LINDSEY GRAHAM U.S. Senator of South Carolina

> MR. JOHN MCCAIN U.S. Senator of Arizona



"I believe that the greenhouse gas effect is real, that CO2 emissions generated by man are creating a greenhouse gas

effect that traps heat, and the planet is warming. I'm looking for a solution that is pro-business, and we need to get to the bottom of the problem."

-Lindsey Graham

At sessions on bipartisan leadership, the speakers stressed that climate change is real and that political leaders need to work together to implement commonsense bipartisan solutions.

Senator John McCain (R-AZ) emphasized the importance of a pragmatic mindset to climate change action. He encouraged his Republican colleagues in Congress to recognize climate change as a commonsense issue.

"Climate change is real and requires pragmatic problem-solving to address Bipartisan collaboration is necessary for durable, predictable, and effective responses to climate change," said McCain.

Senator Lindsey Graham (R-SC) announced that he was working with Senator Sheldon Whitehouse (D-RI) to introduce a bipartisan carbon pricing bill in the Senate. Senator Graham expressed optimism about a market-oriented solution that would generate revenue for the Highway Trust Fund and improve the competitiveness of renewable and nuclear power.

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"Now that Republicans hold the levers of power in Washington....this group of us has come forward with this conservative, free market, revenue-neutral, limited government, internationally competitive approach to the potential threat of climate change...Our plans suggest a solution that rests of four pillars: (1) creating a gradually increasing carbon tax; (2) returning the proceeds of that tax to the American people in the form of dividends; (3) establishing border carbon adjustments that would protect American competitiveness and encourage other countries to follow suit; and (4) rolling back government regulations once such a system is in place and working."

—James Baker

Proposals for market-based solutions and other lighter-touch regulatory approaches may facilitate bipartisan rapprochement on climate change. Former Secretary of State Jim Baker described a need for market-oriented policy proposals that **provide an opening for Republicans to reenter the national conversation on climate change**. Secretary Baker called for Democrats and moderates to understand the "enduring conservative convictions" among many Republicans.

Secretary Baker spoke about the importance of his evolving personal views on climate change, telling the audience about formative conversations he has had over his decades as a public leader. Secretary Baker was particularly influenced by major business leaders who apolitically recognized climate change as a risk to their companies.

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Secretary Baker also spoke about an ongoing effort of leading Republican thinkers – including former

Secretary of State George P. Schultz, former Secretary of the Treasury Hank Paulson, Martin Feldstein, and Greg Mankiw—to build support for a "tax-and-dividend" solution among conservative and small-government thinkers. Secretary Baker observed that carbon-conscious trade policies could allay economic competitiveness concerns associated with carbon pricing.

Secretaries Baker and Kerry both spoke about the **influence of money in American politics**, observing that financial pressures had paralyzed legislative action on climate change as well as a host of other public problems. The Secretaries observed that dysfunctions in modern media have exacerbated this paralysis by allowing for a rise in disinformation about critical public problems.



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predictable, and effective responses to climate change."

- John McCain



Private Sector Impact

Mobilizing Capital, Unlocking Innovation

Speakers

MR. HANK PAULSON
Former U.S. Secretary of the Treasury

Mr. Jeffrey immelt Chairman of the Board of General Electric

Ms. ANNE FINUCANE
Vice Chairman of Bank of America

At the panel on the role of the private sector, there was a clear consensus that business has a critical role to play in driving solutions. Investments in technologies and new business models that address climate change present. Private sector innovation combined with thoughtful policy will continue to drive down the cost of clean technologies while leading to the creation of high-value manufacturing jobs. Business leaders can step up to fill the leadership vacuum caused by the U.S. government's signaling of its intentions to withdraw from the Paris Agreement. Inaction on climate change is a highly risky and poor business strategy.

According to former GE Chairman Jeffrey Immelt and former U.S. Treasury Secretary and Goldman Sachs Chairman and CEO Hank Paulson, it is in the best interest of the private sector to lead the way on climate change action. The world's future business leaders hold the same view. Ninety-seven percent of more than 3,700 MBA students across the Global Network for Advanced Management (includes 29 of the world's top business schools) think that businesses should be leading efforts to address climate change.

Investing in clean energy presents enormous opportunities for revenue growth and job creation. For GE, investing in cleantech has generated approximately \$275 billion of revenue since the start of its Ecomagination program in 2005. According to Immelt, "The thesis of this initiative was that through innovation you can drive efficiency, job creation, and eliminate global warming at the same time."



"If we don't do what China is already doing, we're going to fall way behind. Investing in a low-carbon economy will build out competitiveness."

-Hank Paulson



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- Jeffrey Immelt

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Paulson and Immelt talked about the need for the United States to remain a leader on climate action if it wishes to remain competitive with China and other countries. The U.S. can **update its infrastructure and public-private financing mechanisms to meet the needs of the 21st century** by investing in projects that build resiliency and enable renewable energy distribution.

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Bank of America now finances 10 times more renewable energy than fossil fuel energy and is the largest underwriter of green bonds according to Vice Chairman Anne Finucane. Private equity funds are successfully finding ways to earn financial returns while promoting sustainable development.

"Fifty years ago in meetings, nobody asked about ESG (Environmental, Social and Governance) factors in investing but now it is an important issue," Finucane.

Groups like the Catalytic Finance Fund are forming new financial structures that make it possible to finance conservation projects in emerging markets that were previously too risky. However, there is still work to be done around mandatory disclosure. Companies should be required to disclose climate related risks. The work of the Financial Stability Board's Task

Force on Climate Risk Disclosures is a positive step forward.

"Our objective in Paris was to send a message to the marketplace that countries were committed.... And our assumption was that if the message was strong enough, then it would change the flow and the amount of capital investment in alternative, renewable, sustainable energy," said Kerry.

While businesses can make enormous contributions to climate change mitigation and adaptation, public policy continues to have an important role to play. According to Paulson, "The most important policy framework is putting a fair price on carbon." Immelt also suggested that pricing carbon is an enormously popular approach now. According to research conducted by the Yale Program on Climate Change Communication, 70% of registered voters support a revenue-neutral carbon tax. Partnerships between the public and private sectors need to be replicated on local, state and international platforms.



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-Anne Finucane



Leading at the State and Local Level

Implementing Paris Across All Levels of Goverment

Speakers

Mr. Jerry Brown Governor of the State of California

MR. JAY INSLEE Governor of the State of Washington

DR. JIM KIM
President of the World Bank

Ms. Anne Hidalgo Mayor of Paris During the panel on state and local leadership, government officials made clear that they do not see the Paris Agreement as simply a compact among nations. Rather, the Paris Agreement calls for all governments to innovate, collaborate, and engage their citizens in pursuit of a sustainable future. Subnational governments have found that climate change action often leads to greater prosperity, well-being, and citizen engagement, leading United States' rich tradition of federalism and localism, where state and local governments often lead the charge on social and economic progress.

"The torch has been passed from the White House to governors, mayors, and college students," said Governor Jay Inslee.

The current Administration's intent to withdraw from Paris is belied by the sheer ambition of state and local climate change commitments.

Twenty U.S. states and the District of Columbia have greenhouse gas reduction goals. The list of state and local commitments includes some unlikely suspects: for example, Florida plans to reduce greenhouse gas emissions from electric utilities by 80% below 1990 levels by 2050. San Diego — a "strong mayor" city under Republican leadership — passed a legally binding commitment to using 100% renewable power by 2035.



"It's pretty simple – we know the threat, we know we need business allies, we know universities and the nonprofit sector can have a role

in influencing this and we can get it done. It is possible."

– Jerry Brown



"Over 10 trillion dollars are sitting in negative interest rate bonds. Major emitters want to move toward cleaner solutions, but the financing doesn't exist. This is an opportunity!"

– Jim Kim

Strong intergovernmental partnerships to share knowledge and improve government capacity have aided these state and local efforts. For example, the United States Climate Alliance, comprised of fifteen states with over 1.3 million total green jobs, has convened governors who counsel each other on sustainability initiatives.

The Regional Greenhouse Gas Initiative is on track to successfully reduce carbon emissions from the electrical sectors from nine states with a cap-and-trade program that assures lowest-cost emissions reductions. The C40 Cities Climate Leadership Group brings cities together to build knowledge about how to tackle climate change in a rapidly urbanizing world.

"Our 91 cities represent 650 million people of the world. We are powerful. We can be efficient today, not tomorrow," said Mayor Anne Hidalgo.

Private and public financial institutions are ready to invest in state and local climate change measures. World Bank Group President Jim Kim noted that the World Bank and other multilateral development banks were ready to provide concessional financing to help create markets for climate change-related debt.

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"It's pretty simple – we know the threat, we know we need business allies, we know universities and the nonprofit sector can have a role in influencing this and we can get it done. It is possible," said Jerry Brown, Governor of California.

Indeed, in the U.S. alone, 3,000 businesses with over \$7.7 trillion in revenue have committed to climate action.

Businesses and individuals alike are making their voices heard.

"I have watched people in other countries stand in the hot sun at [great] risk ... and vote in seventy, eighty, and ninety percent numbers. We have to make climate change a voting issue," Kerry said.



"Our 91 cities represent 650 million people of the world. We are powerful. We can be efficient today, not tomorrow."

–Anne Hidalgo



Building the Clean Energy Economy

Jobs and Prosperity from Clean Energy

Speakers

DR. ERNIE MONIZ
Former U.S. Secretary of Energy

MR. JONATHAN PERSHING
Former U.S. State Department's Special Envoy
for Climate Change

MR. TONY EARLEY
Former CEO and Current Executive Chair, PG&E

Mr. Mark Boling CEO, 2CNRG

Ms. HEATHER ZICHAL
Airbnb, Former Climate and Energy Advisor to
President Obama



"You don't necessarily need a comprehensive national energy policy to make very significant gains. The reality is if large energy companies, large environmentally

friendly companies, and customers demand clean energy in their states or regions, you can make meaningful progress."

– Anthony Earley

During the panel on the clean energy economy, the speakers explained how the Paris Agreement signaled to businesspeople and investors that the world is moving toward a deeply decarbonized future. The current energy transition presents a multi-trillion-dollar economic opportunity for the private sector, and companies are finding ways to lower the cost of clean energy, electrify products and services, and improve energy efficiency. Investments in supporting infrastructure and technologies are necessary, especially in next-generation nuclear power. Despite the present federal withdrawal from climate change action, durable political momentum now supports a clean energy future.

"I firmly believe there is no going back. There's no status quo ante after the Paris Agreement on climate change. We are heading to a low-carbon future. It may be a bit rockier without federal leadership over the next few years . . . but that's where we are going, that's where the world is going, and that means a multi-trillion-dollar global clean energy marketplace," said Secretary Ernie Moniz.

The Paris Agreement was the first step toward deep decarbonization of industrialized countries by the mid-century timeframe.

The Paris Agreement signaled to businesspeople that they should **seize the economic opportunities offered by clean energy**. From Mr. Boling's perspective, the Paris Agreement serves as a roadmap that redirects investment and encourages



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companies to "take advantage of a new energy paradigm." Zichal underlined the importance of the **newfound business certainty established by climate change commitments**, observing that many companies are now lobbying against rollbacks in federal climate change policies to preserve a stable regulatory environment.

"One of the things we don't talk about very often in that [Paris] Agreement is a paragraph that was put in talking about 2050. It pushes us in a different direction. It says, 'Where do I want to be? What's the vision that I have . . . for my carbon and climate economy at the middle of the century?' Then you work back from that, and think about how you deliver that," said Jonathan Pershing.

Electricity decarbonization, electrification, and energy efficiency will serve as three key pillars for the energy future.

Electricity generation is decarbonizing rapidly even amidst the present federal withdrawal from clean energy. State-level policies, combined with declining costs for clean energy, continue to drive significant investments. Secretary Kerry noted that there is ample capital to meet clean energy investment needs: about \$13 trillion is trapped in net-negative interest rate investments.

Electrification is making headway in the light-duty vehicle market. Mainstream automobile manufacturers have followed companies like Tesla by committing to electrify their product lines. However, heavy-duty vehicles, aircraft, and certain industrial processes may prove more difficult to electrify.

Energy efficiency remains an inexpensive and effective tool for facilitating the energy transition.

Earley noted that California's rapid emissions reductions were aided by its nearly-flat per-capita electricity usage rates over the past three decades.

"I get funny looks sometimes back [in Texas] when people see how committed I am on the climate change issue. But what they don't understand is that I'm committed on climate change not despite being in the energy business, but because I'm in the energy business. On this issue, everything that I've learned tells me that the right thing to do is also the smart thing to do," said Mark Boling.

A wide array of **supporting infrastructure and technologies** are necessary to facilitate clean energy.

The federal government should **redouble its commitment to nuclear energy for both security and climate change reasons.** Secretary Moniz cautioned that the recent rise in Russian contracts to build nuclear reactors in foreign countries undermines the United States' ability to assure non-proliferation.



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thirty, and forty-year time horizons."

- Heather Zichal



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Nuclear energy currently requires large-capacity projects that put utilities at significant financial risk. **Small modular nuclear reactors** may allay this problem by allowing nuclear power to be built in smaller increments. However, small modular nuclear reactors must be built in large numbers to be economically viable, underlining the importance of government support to launch the market for such reactors.

An improved electrical grid can unleash massive wind energy investments in areas like the Midwest, allow for smart "demand response" solutions that continuously balance electrical demand with supply, and support growth in distributed solar and wind generation. Zichal noted such investments would be aided by streamlined siting processes for electrical infrastructure improvements.

Pershing and Secretary Moniz agreed that carbonnegative technologies are needed to meet global climate change targets. Secretary Moniz stated that deep decarbonization will require both **engineered and biologically-based carbon management solutions** to remove gigaton-scale quantities of carbon dioxide from the atmosphere.

"You don't necessarily need a comprehensive national energy policy to make very significant gains. The reality is if large energy companies, large environmentally friendly companies, and customers demand clean energy in their states or regions, you can make meaningful progress," said Anthony Earley.

Clean energy has a bright future because **durable political momentum** supports decarbonization.

Secretary Moniz laid out a vision for **bottom-up innovation** that is regionally focused, attentive to the needs of communities and workers, and consistent

in the call for a deeply decarbonized future. Secretary Moniz predicted that such efforts would generate a "tailwind" of widely dispersed political support.

Pershing noted that political support for California's cap-and-trade program stems in part from public understanding about **the well-paying jobs available in a clean energy economy**. Earley further observed that utilities and major corporations united with the California governor's office to extend California's cap-and-trade program for the next decade. He predicted that this extension would render the cap-and-trade program a permanently ingrained feature of California's booming economy.

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in the energy business, but because I'm in the energy business....[T]he right thing to do is also the smart thing to do."

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Citizen Engagement & Activism

The Time to Act Is Now

Speakers

MR. LEONARDO DICAPRIO
United Nations Messenger of Peace for Climate

SECRETARY JOHN KERRY Former U.S. Secretary of State

"The most important and immediate action that citizens can take is to vote for leaders who believe in

On the panel on citizen engagement and activism, panelists stressed that passivity is not an option and

citizens can take is to vote for leaders who believe in climate change. But they can also do more: By spreading scientifically sound information about climate change, citizens can encourage other citizens to vote against climate change deniers, as well as compel leaders to set bold agendas to protect the environment once in office. Consumers can demand that companies recognize the problem of climate change and adopt environmentally responsible practices. Corporations can adopt similar mandates for themselves and the private entities they do business with, as well take steps to inform their employees and customers about the facts of climate change. . . . Average citizens can play a huge role in sustaining the momentum toward climate change reform at root of the Paris Agreement, even in the absence of federal government leadership," said Secretary John Kerry.

Leonardo DiCaprio focused on the need to counter the disastrous and dangerous role played by the perpetuation of false understandings about climate change in U.S. politics. He began by lamenting that the United States is, in his view, one of the only countries in the world where a political party has hijacked the issue of climate change away from the facts. Even worse, dozens of U.S. leaders – even some who have experienced the very real



"When the public is convinced, the politicians will fall in line very quickly."

-Leonardo DiCaprio



"This utter lack of leadership by officials who choose first to preserve their short-term political power, rather than ensure the liveable future on our planet, means that we must all do more now than any other time in human history. We have to take these matters into our own hands—we have to stand up together and take on these issues that unite us."

-Leonardo DiCaprio

effects of storms strengthened by climate change — continue to publicly deny climate change and take steps to halt progress towards climate reform and undo previous efforts.

DiCaprio offered a clear response to these challenges: changing public opinion and stopping the spread of false information about climate change. "We need more action," he explained, especially from the private sector. "We need to help millions of employees and customers learn the facts about climate change, and what they can do . . . to demand that politicians accept climate science and make bold commitments before it is too late."

DiCaprio urged corporations and individuals alike to reject false views on climate change wherever they find them, and to demand that those they interact with accept the scientific evidence of climate change. Politics, he suggested, will follow mass sentiment.

Secretary Kerry agreed that capitalizing on public opinion – especially the opinion of young people – will be key to making long-term progress on climate change. He cited the example of the environmental movement in the 1970s, which turned environmental issues into voting issues, and in turn to mobilization in favor of seminal environmental regulations, as well as the creation of the EPA.

"When the public is convinced, the politicians will fall in line very quickly," said DiCaprio.

In keeping with his message that "every single one of us has to take action" to further climate change efforts, **DiCaprio also announced a pledge for the Leonardo DiCaprio Foundation to award \$20**

million in new grants to assist with climate change efforts.

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Both Secretary Kerry and DiCaprio also discussed the immense void in global and domestic leadership that the Executive has created by announcing its intention to withdraw the United States from the Paris Agreement.

Secretary Kerry spoke about the negative geopolitical ramifications of the United States stepping back from this area of leadership. He nonetheless stressed that the American people, corporations, and states are filling that void by taking independent efforts to comply with targets set under the Paris Agreement. As one example, he pointed to the fact that a number of major corporations have opted to continue to adhere to the Paris Agreement, given that they have already begun to make pro-climate investments in the wake of Paris.

Secretary Kerry concluded with another hopeful point: the fact that the technology already exists to revolutionize society, our approach to energy, and to steer the world away from a climate disaster. The key question, he suggested, is simply this: "Will this revolution happen quickly enough?"



"Leaders from across all sectors of our society are stepping up and taking action to confront the climate crisis. This is embodied by the Yale Kerry Initiative, and through the many years of Secretary Kerry's global leadership on this urgent cause. We must maintain this dialogue and find solutions to protect our planet for generations to come."

-Vice President Al Gore

WHAT YOU CAN DO

Join the Yale Environmental Leadership Letters Campaign ("YELL for Climate Action") by committing to taking action:

- Write to your local paper with an op-ed or letter-to-the editor calling for urgent action using the templates on the YELL website.
- Make climate change a voting issue by calling or writing to state, local and federal officials.
- Write business leaders and tell them climate change and sustainability matter to you as a consumer.
- Use your social media-Facebook, Twitter, Instagram, LinkedIn, email-to raise awareness around climate change.
- Publicly commit to #livebyparis and support the efforts of state, cities, and companies that have pledged to abide by Paris.



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Yale Jackson institute FOR GLOBAL AFFAIRS





ENVIRONMENTAL STUDIES

