



**From Climate Conflict to Climate Action:
Capturing the Greatest Opportunities of Our Generation
Sylvia and Benjamin Slomoff Lecture in Conflict Resolution
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**Statement by
Christiana Figueres, Executive Secretary
United Nations Framework Convention on Climate Change**

Ladies and gentlemen,

Thank you for that very warm welcome to U Mass, and as you have now let me enter this hall with all my wonderful family, let me start by expressing my deep felt sentiments to the families so profoundly affected by last week's tragedy in Boston. There are millions of people around the world feeling for those families, for this university, and for this city, where the challenge of conflict resolution has now taken on a new meaning. And in that context, I salute Boston Strong!.

And, may I thank the one and only Ben Slomoff, who unfortunately cannot be with us tonight, but who is so well represented by Bryan and Nancy. His generous gift to UMass makes this lecture series possible. This forum reflects his continued dedication and commitment to conflict resolution. I am honored to be part of it, and to share with you some thoughts on conflict resolution and climate change.

There is no doubt that meeting the climate challenge requires unprecedented effort, one calling for collective and coordinated action at all levels of society, from the international arena to national policy to the private sector.

Some say the challenge is simply too complex. They believe that at the core of resolving climate change is a series of conflicts too daunting to resolve. I do not underestimate the challenge or the complexity, but today I posit that in fact, the international community, individual nations and private citizens are already proving that climate action can help to solve conflicts, and can even avoid greater ones.

Let me start by outlining how failing to resolve the climate issue will inevitably lead to conflicts much greater than those we currently have.

If we continue along the "business as usual" path of development, pumping fossil fuel emissions into the atmosphere, inefficiently using water and expecting agriculture to continue as it has for generations, we are seeding increase conflict.

Changing weather patterns due to rising concentrations of GHG in the atmosphere are already affecting certain geographic areas: some are becoming deserts, others are being lost to the sea.

The International Organization on Migration tells us this will affect global migration patterns as people attempt to escape the worst impacts of rapidly-changing weather conditions.

It's very possible we will then find ourselves in the midst of unprecedented conflicts—often violent—over access to food, water and land.

The US military has already recognized climate change as a major threat to the security of the US, and the UN Security Council is examining the global security implications of climate change.

But the threat is not just to our future security, it is also to the development gains we have attained over the last 20-30 years.

Last month, the United Nations Development Programme released its 2013 Human Development Report.

Contrary to what you might suspect, it was full of positive news. It revealed a rise in living standards in the southern hemisphere, and a significant reduction in the global poverty rate. In China alone, more than 500 million people have been lifted from poverty.

What's really remarkable about the report is that it shows that we have achieved the main poverty eradication target of the Millennium Development Goals.

However, it also indicates that if we don't deal with climate change, all of those advances may be reversed.

In fact, unless environmental disasters are averted by global action, the number of people in extreme poverty could increase by up to three billion by 2050 with all the ensuing social and economic conflict.

This global scale conflict can be avoided by successfully addressing climate change.

Let me now turn to three areas of conflict in the climate challenge that have either been resolved or are in the process of being resolved.

Conflict of Belief

The first is the conflict of belief in the science. Some would like to stop the advance of climate policy by arguing that there is still a conflict of opinion about the veracity of climate change. Well, this is one conflict that actually has been resolved.

Fact: Of the 13,950 peer-reviewed scientific articles published between January 1991 and November 2012 that mentioned either “global warming” or “global climate change”, only 24 questioned global warming.

Twenty-four articles out of 13,950.

That’s 0.17 per cent, or less than one fifth of one per cent, of all peer-reviewed scientific articles on the topic.

Hardly a debate.

And if you don’t want to look at the literature, you can look at the reality that is happening all around you.

No matter where we look we have increasing evidence of the disastrous effects of climate change.

In August of 2012, the U.S. National Snow and Ice Data Center reported that the extent of ice cover on the Arctic had shrunk by 186,000 square miles compared to only five years ago: that’s an area approximately 17 times the size of the state of Massachusetts.

According to a new study, the last 30 years have been the warmest for the world’s land areas in at least 1,400 years.

2012 was the warmest of any year on record in the United States.

As you remember, last summer the US experienced one of the worst droughts on record, a heat wave extending from the Rocky Mountains to the Ohio Valley, with devastating effects on the farmers of the entire region.

And who can forget Hurricane Sandy—that horrific storm that was three times the size of a “normal” hurricane and the second-costliest in American history?

Did you know that the Boston Harbor Association determined that if Sandy had hit Boston five-and-a-half hours earlier, at high tide, it would have caused widespread flooding—floods that would normally come around only every 100 years?

The Association then modeled what could happen to Boston as sea levels rise due to global warming. They included two scenarios: a sea-level rise of five feet and of seven-and-a-half feet.

The results are sobering. If the oceans rise five feet, Boston would experience what we now consider a 100-year coastal flood twice a day, every day.

At seven-and-a-half feet? Put it this way, the UMass campus would no longer be on a peninsula, but on an island. In fact, a large percentage of Boston real estate will be underwater.

I'm not into fear-mongering, but we have to understand what scenarios we could face. Here's what scientists tell us: that at the very least, a five-foot average sea level rise is possible by the end of this century if we continue to delay the global decrease in emissions. This is not the future we will have, it is the future we have to avoid.

The United States is experiencing what other countries are experiencing: that the effects of climate change are no longer theoretical, they're here and they're affecting people now.

Fortunately, the conflict of belief, quite simply, is over. We know climate change is here, and we know we must do something about it.

Conflict of Fuels

The second conflict we've largely overcome is that of fuels.

Let's begin with the obvious: that we still largely depend on the hydrocarbons that fuelled the industrial revolution, and built the economic development we have now, but at the same time caused climate change.

We will continue to use some fossil fuels, in particular natural gas. But, most of the growth in demand for new energy must come from clean technologies.

This is not a new idea. Consider what this famous American once said:

“We should be using Nature's inexhaustible sources of energy: sun, wind and tide. I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that.”

The speaker? Thomas Edison. The date? 1931!

Fortunately we are finally catching up with 1931 and are moving in this direction.

- In 2010, world electricity production by renewables passed the 20 per cent mark.
- In 2011, renewable energy investment topped 1 trillion dollars.
- And in 2012, the renewable energy industry added 1.5 million new jobs to the world economy.

This is positive momentum. And while the cost of producing solar and wind energy is decreasing, the efficiency of these technologies is increasing, leading to surprising investments, in surprising regions.

Qatar just added 1.8 gigawatts of solar power to their energy mix.

The United Arab Emirates recently inaugurated a 100-megawatt concentrated solar plant that took three years to build, and is the largest in the world.

Saudi Arabia has committed to invest \$100 billion US dollars in solar energy in coming decades.

These fossil fuel exporting countries are making these investments not because they have money to burn, but because they understand the strategic and economic importance of sustainable energy.

The conflict over the fuels of the future is largely over. The question is no longer “why move to sustainable energy?” but rather “how fast can we get there?” and “who will get there first?”

Conflict of Responsibility

Let’s move on to the third area of conflict, and that is the conflict of responsibility.

One of the most divisive issues in the climate negotiations is the discussion about who carries responsibility for climate change.

We’re familiar with the debate.

On one hand we have the question: Who is historically responsible for having caused climate change?

Incontrovertibly the developed countries, so developing countries emphasize that industrialized nations should bear the cost and responsibility of solving the problem they created.

On the other hand we have the question: Where are future emissions coming from?

Developed countries argue that emerging developing nations should assume responsibility.

If we continue to paralyze ourselves by that debate, we won’t get any farther. It may be more helpful to ask two different questions:

1. How do we ensure that developing countries have the support they need to pursue their economic growth with a low-carbon footprint? Developing countries must grow their economies in order to lift their population out of poverty and into welfare. But with the needed support they could leapfrog our carbon intensive technologies and grow on the basis of a clean economy.
2. “What responsibility do we collectively have to future generations?” The fact is nobody is exempt from responsibility. Every single economy, whether they’ve produced greenhouse gas emissions in the past or not, has a responsibility for the future.

We are in the process of answering these two questions, of resolving this conflict. And, we have seen positive steps to do so. All developed countries have emissions reductions targets, and 56 developing countries have made similar commitments.

Notably, some of the largest and fastest growing economies – China, India, Brazil – have made significant investment into renewables, instituted carbon markets or have begun using innovative technology to address issues such as deforestation and air quality.

Tokelau, a small island state that contributes nothing to global emissions, in the past, present or future, is the first Pacific island to achieve 100% power generation from renewables. This move benefits future generations of inhabitants and contributes to opening the space for opportunities, for collaboration, and for agreements that could transform our world.

A world transformed.

Today, I've outlined three areas of conflict we've moved beyond, or are in the process of resolving. But I would like to also bring your attention to the strides we are taking toward a better future, toward creating a world that is an exciting place to live.

Specifically, I am speaking of exciting advances in transportation, energy and building.

As we overcome the conflict of belief, individuals, governments and businesses are taking responsibility and moving towards low-carbon transportation options.

- Electric cars are proving themselves in the market, and both Europe and the US are strengthening the network of electric car charging stations.
- Mayor Bloomberg of NY recently announced that 20% of New York City public parking spots will have charging capability by 2019, and Tesla motors is installing supercharging stations that make road trips possible from Boston to Washington D.C.
- And, airlines are minimizing fuel costs, decreasing emissions and improving service by optimizing take off, flight and landing practices.

These are incremental changes in the transportation sector. But now think of a world transformed.

- Think of a world moved by revolutionary transportation concepts.
- Driverless cars communicating with each other and the roadway itself to maximize efficiency of roadway capacity and fuel.
- Electric cars charging through inductive power transfer by the road surface they are driving on.
- Biofuels from algae fueling low-carbon aviation and shipping industries.

In the energy sector, we are seeing major changes, signs that the conflict of fuels is being overcome.

- Consider that the United States added 3.3 gigawatts of new solar power in 2012, a total that represents more capacity than the three previous years combined.

- The US also added 13 GW of wind power in 2012. This means that 49% of all new energy generation in 2012 was renewable!
- The Regional Greenhouse Gas Initiative, which Massachusetts is a part of, is a great example of a successful carbon market in action, beating last year's emissions reduction target, tightening the allowed emissions cap for next year and setting an example for other carbon markets.

These are incremental changes in the energy sector. But now think of a world transformed:

- Think of a world where any surface – the façade of buildings, the roofs of cars, parking lots and shopping malls, – can be purposed to harness solar energy.
- Where the waste we generate is either fully recycled or used to generate the energy we need, with no left over waste.
- A world where access to energy does not depend on massive infrastructure installation.

As we overcome the conflict of responsibility, we are constructing buildings – built for use today and generations to come – in ways that reduce their carbon footprint.

- A recent trend as the housing market recovers is an increase in demand for green buildings.
- New buildings made of green materials and built to high efficiency standards are more affordable to construct, hold their value longer and offer lower operating costs.
- And, changes to existing buildings include innovative retrofits that incorporate intelligent building concepts such as LED lighting and smart thermostats that learn use patterns and adapt, saving both money and energy.

These incremental changes in the built environment. But now think of a world transformed:

- Today more than 70% of emissions are generated by cities, a figure set to grow with increased global urbanization.
- Imagine a world in which our cities are full of not just LEED-certified buildings, but structures capable of learning and making decisions, capable of producing energy and food.
- Think of cities full of solar façades and wind turbines, algae façades that produce biofuels and buildings that support water collection and urban agriculture.
- Instead of only building cities, think of “planting” them or floating them on water to increase resilience to the flooding and sea level rise from climate change.

Many of these advancements in transportation, energy and building sectors are either already here or just around the corner.

As we resolve the conflicts that have been part of addressing climate change, we build momentum for this transformation. We transform science fiction into science fact.

And, we do so not because it is altruistic or an act of environmental activism. We do so because it is exciting, and it makes business sense, and because it makes long term economic sense.

In the end, ladies and gentlemen, addressing climate change does require resolving daunting challenges, it is indeed to use the Provost's term, a "wicked problem", but it also offers major wicked opportunities, and the greatest opportunity our collective struggle against climate change offers is this:

It offers the opportunity to resolve conflicts through international collaboration, toward an exciting future to call upon "the better angels of our nature", to quote Abraham Lincoln.

President Lincoln knew a thing or two about resolving conflict, of having the ability of looking past current struggles to the opportunities and promise beyond.

Climate change will not be solved through competition, but rather through collaboration, through cooperation.

We have the capital. We have the technologies. What we now need is the clarity of vision, the strength of will, the power of optimism. These are the "better angels of our nature".

And, dear friends, optimism is based on rigorous analysis, but is fueled by moral choice. And each one of us needs to step up to that moral choice.

Thank you.

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