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New York City Climate Week

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I had the opportunity to attend Climate Week, New York. Throughout this week a series of discussion, panels, and lectures were held to present the various issues facing New York due to the ever-happening reality of climate change. Climate Week was very timely this year; as the week kicked off, several parts of New York City recovered from the second tornado in one season, quieting even the loudest of skeptics during Climate Week.

On Thursday September 23, 2010 I attended: "Get Past the Past: Climate Change Adaption in & Around New York." The event I attended was put together by the Sallan Foundation, an organization that works to encourage green building practices, especially through education and information. I would just like to extend a very special thank you to Nancy Anderson of the Sallan Foundation for all her amazing efforts in bringing environmental and

related information to the forefront for everyone's access. Other event sponsors included the New York Academy of Sciences, an organization that has consistently worked to research and contribute to environmental issues and findings. The New York Academy of Sciences was also the gracious host of the event, atop of their LEED Certified building in the heart of the financial district on 250 Greenwhich Ave.

The panel's guests were very different and knowledgeable individuals, all heavily involved in the field of climate change and the various approaches of adjustment to climate issues.

The first speaker up was Gary Yohe, Ph.D., an economist that is currently on the NYC Panel on Climate Change. Dr. Yohe focused on how to take on and understand climate change. He started off by discussing the IPPC's findings on temperature and precipitation changes, in which the NYC Panel on Climate Change has calibrated this data down to estimate the impact of climate changes on New York City. While there is some uncertainty (as with all models), such projection most certainly helps draw a much clearer forecast of what NYC faces.

In preparation for climate change assessments and studies, NYC did not stop at the IPPC extrapolated data, rather the City's panel went after more local numbers, where mean annual changes were constructed based on local weather data. Here, it was noticed that sea level rise is in fact the most important concern for a city surrounded by water. Rapid ice melt would also be a factor; however the data showed an unexplainable increase in ice melt in the most recent years, and so the upward bound of potential sea level increase due to ice melt is still uncertain until an explanation can be built into a model. What is certain is that New York City can expect an increase of as much as 55 inches of

sea level rise in the coming decades.

Another factor that Dr. Yohe discussed with a great deal more certainty was the frequency of storm return in the coming years. Simply said he stated: “Today’s 50-year storm could look more like a 100 year storm…” suggesting more intense storms at rather common frequencies. Dr. Yohe re-elaborated by saying, “It won’t take long for what [storm] showed up every 100 years to show up every twenty or thirty [years].”

In terms of response to climate change, Dr. Yohe suggested a three-part strategy that integrates risk [based approach to] management, mitigation, and adaptation. NYC was quick to follow a risk-based approach, as Mayor Bloomberg is a huge proponent of risk analysis and assessment. The risk-based approach also allows the full range of NYC’s stakeholders to be involved which only improves the process. If done properly, risk assessment will help quantify the difficulties and show the variation of risk from place to place. Such a process when determining an entire city’s exposure to natural disasters and environmental stresses due to climate change will be vital.

Dr. Yohe emphasized the importance of monitoring any long-term climate-based sustainability efforts, in which he contrasted this from the usual engineering school of thought (specifically naming the Army Corps of Engineers). Engineers, upon deciding a strategy or putting a structure in place, immediately assessed whether the structure worked or failed and then rarely returned to monitor the project. With something as dynamic as climate change constant monitoring and data would be necessary in order to make the appropriate assessments and decisions.

Dr. Yohe closed with some brief wisdom that if the audience were to take *anything* away from his presentation it would be the following: NYC will get more heat waves; NYC will get more rain events that are also more severe; the seas surrounding the City will continue to rise causing more flooding; and finally, coastal protection is needed.

Dr. Megan Linkin, of Swiss Re and the NYC Panel on Climate Change spoke next. She provided insight into what private re-insurance firms (the insurance companies for the insurance companies) are doing to about climate change. The fact that private re-insurance firms are looking to take on climate change and make adjustments in their business practices is emblematic of a change in industries signifying that climate change is an actual force.

The insurance industry's stats were the first way Dr. Linkin made the case for climate change preparation. Insured losses were the highest in 2005- not surprising as that is the year Katrina occurred. Weather related perils contribute the most to aggregate loss- so a linear trend is arguably visible. The topic of weather perils and NYC go hand in hand. Like much of the coastal northeast, NYC is surrounded by water, so NYC is very susceptible to damage from water, including floods. But water is not the only risk—NYC is second only to Tokyo in terms of wind exposure damage (think of all of NYC's tall glass structures).

Perhaps the most astounding figure presented by Dr. Linkin is that a category 3 hurricane would cause $200 billion in insurance losses, a figure three times that of Hurricane Katrina's losses (note NYC's real estate is densely packed and expensive). While the last hurricane to hit NYC was in 1821, it does not mean that a hurricane is unlikely and more importantly that both economic and insurance loss will not affect NYC in the coming years.

Swiss Re's response: use catastrophe models to understand and estimate the risk involved. One model used by Swiss Re, which the insurance firm has found success and reliability with, is one based on four factors: (1) hazard (2) vulnerability (3) value distribution and (4) insurance conditions. Swiss Re continues to research and prepare models to help prepare for what Swiss Re believes as a current force.

With an insurance industry leader on the way to adjusting to climate change, its important that other stakeholders in cities and industry start to plan, following in Swiss Re's footsteps.

It was extremely refreshing to be in a setting where the discussion of climate change has shifted from "if" climate change is real to "how to adjust to climate change." This setting was also a place where the academic, corporate, and governmental [municipal] world came together to discuss the impacts of a coming change and to develop a viable approach to protect the future of cities.