

# Toward a New Climate Network

Transatlantic Solutions for a Low Carbon Economy

Transatlantic Climate Policy Group



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# Looking Beyond Copenhagen

## Sub-National Governments as Transformers of Energy, Climate, and Transatlantic Policies

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**“[P]arallel concerns and the economic ties between U.S. and European cities perpetuate a reciprocal cycle of policy learning among cities and other government and civil society actors who will inevitably transform climate and energy policies on both sides of the Atlantic.”**

When the nations of the world gather this December in Copenhagen to develop a long-term climate agreement for a post-Kyoto world, it will be impossible to overlook the role of local, regional, and state authorities. This applies in particular to Europe and the United States, and mainly for two reasons. First, in Europe and the U.S., emissions from cars, trucks, and the heating, cooling, and power generation for buildings and homes account for approximately 70% of all greenhouse gas emissions. Moreover, urban energy and environmental policies on both continents are invariably tied to land use, and therefore greatly subjected to the oversight of local and state authorities. Second, the rise of the global economy has inextricably linked sub-national governments, particularly between U.S. and European metropolitan regions. Hamilton and Quinlan (2008) show that business between Europe and the U.S. exceeds \$3.75 trillion annually and accounts for over 14 million “on-shored” jobs every year.<sup>1</sup> They add that the overall investment by Europe in China is less than German investment in New Jersey and that total European investment in India is less than half of German investment in individual U.S. states such as Missouri or South Carolina. As a result, parallel concerns and the economic ties between U.S. and European cities perpetuate a reciprocal cycle of policy learning among cities and other government and civil society actors

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<sup>1</sup> [http://transatlantic.sais-jhu.edu/Publications/TE\\_2009\\_finaltext.pdf](http://transatlantic.sais-jhu.edu/Publications/TE_2009_finaltext.pdf), consulted on 09.14.2009

who will inevitably transform climate and energy policies on both sides of the Atlantic. However, there is little recognition of the dynamic relations between U.S. and European sub-national governments and the important roles they have played—and will play—in the future of transatlantic relations. This paper looks at key challenges and opportunities affecting U.S. and European cities and regions in the context of climate and energy policy.

## Evaluation

### Rising awareness and leadership by U.S. cities and regions

For nearly a decade, the absence of national leadership in the U.S. on most energy and climate policy initiatives placed the burden of mitigating greenhouse gas emissions on the shoulders of sub-national authorities. In 2006, California was among the first of the states to fill the void by approving the California Global Warming Solutions Act. The law was prompted by in California's requirement for statewide emissions reductions to 1990 levels by 2020—a 10% cut from current levels. States such as New York and New Jersey also introduced legislation targeting greenhouse gas emission reductions by 5%-below-1990-levels by 2010 and 80%-below-2006-levels by 2050. Moreover, as of May 2009, more than 900 mayors have signed the U.S. Mayor's Climate Protection Agreement and committed their cities to meet or exceed the Kyoto Protocol targets (U.S. Conference of Mayors Climate Protection Center).

In addition, there has been a sea change in the views of the American public toward climate change. George Mason University's Center for Climate Change Communication reported in 2009 that over 50% of all Americans are either "alarmed at" or "very concerned" about global warming (Leiserowitz, Maibach, & Roser-Renouf, 2009). This represents a significant departure of U.S. opinion from just a few years ago when climate change rarely registered as a significant concern.

### Minimal implementation

Despite the rise in awareness across the United States about the need to respond to the challenges of climate change, there is still a considerable lack of concrete and meaningful action at the local level. Too many cities, regions, and states in the U.S. rely on the development of aspirational goals as progress indicators rather than the development and attainment of mitigation and adaptation targets that are quantifiable and verifiable. Wheeler (2008) assessed the climate and energy plans of 29 U.S. states, including the goals and measures of these plans, and observed that the majority of efforts to reduce emissions were voluntary-based and lacked dedicated resources for the necessary large-scale transformation of the energy and transportation sectors.

Many of Wheeler's observations are played out in the energy and climate challenges of the Commonwealth of Virginia. Virginia's first state-wide energy and climate plans targeted greenhouse gas emission reductions of 30% below the business-as-usual projection of emissions by 2025. It is relevant to note that greenhouse gas emissions in Virginia have risen more than 1% *annually* since 1990. In addition, more than 500,000 people are expected to move to Virginia between 2010 and 2020. Already, approximately 60% of all electricity emanates from coal. At the local level, the struggle to manage growth, energy, and greenhouse gas emissions is equally challenging for many cities in Virginia. For example, with the best of intentions, the counties Fairfax and Arlington created and launched "Cool Counties"—a national initiative designed to cut greenhouse gas emissions 80% by 2050. However, the scope of Cool Counties and related efforts are mostly confined to emissions from government activities or small demonstration projects at the scale of individual buildings or homes as opposed to comprehensive county-wide emissions. At present, Arlington County's current climate strategy addresses less than 10% of all emissions from county operations.

California's recent climate and energy initiatives, specifically SB 375, remain the exception rather than the rule among state and local-level energy and climate policies in the United States. California has been among the first states to link climate policies with regional land use and transportation planning. The state has created a range of incentives for metropolitan regions to cut CO<sub>2</sub> emissions from mobile sources by calculating emissions under different development and review scenarios. Portland, Oregon, is another exception as one of the few metropolitan regions in the U.S. to actually attain CO<sub>2</sub> emission reductions—1% against 1990 levels. The region is legendary for its long-term integrated metropolitan transportation and development planning as well as its focus on renewable energy and energy efficient buildings.

Apart from these cases, initiatives at the state and local level generally lack quantifiable mitigation targets and benchmarks, large scale application of energy efficient building policies, building retrofiting, renewable energies, and transit-oriented development within large-scale geographically defined areas. In the long run, the shortcomings of these initiatives will invariably place more burdens on the shoulders of cities and states in the United States.

## Challenges

### Community energy planning and European models

By comparison, cities and regions of Europe, particularly pioneering countries such as Germany, Sweden, and Denmark, have spearheaded the development of meaningful climate and energy policies that have brought noticeable results. European cities are particularly skilled at integrating energy efficient building and housing policies, blending compact land-use with transportation, generating and distributing renewable energies, and creating district heating and cooling systems within large "scale projects" that are accompanied by quantitative short- and long-term energy efficiency and greenhouse gas emission reduction targets—commonly referred to as "Community Energy Planning." The results speak for themselves. In cities such as Copenhagen, annual emis-

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sions per person are approximately 2.6 metric tons, compared to the Danish national average of over 12 metric tons per person per year. In Mannheim, Germany, a city which derives more than 90% of its energy from coal, emissions are approximately 5 metric tons per person—in part because of its world-class district heating and cooling system and integrated regional rail transportation system.

Attention to energy efficient buildings and homes plays a critical role in many European city and regional climate policies. In Germany, energy efficiency in this sector is twice that in the U.S.—due in part to EU-level legislation such as the Framework Directive on the "Energy Performance of Buildings" and aggressive national-level legislation such as Germany's Energy Conservation Act and its Renewable Energy laws that set standards for energy efficiency in buildings and created incentives for renewable energy and building retrofits.

Several cities in Germany, such as Freiburg, have fully integrated sustainable climate and energy planning in its overall operations. Freiburg has prioritized scale development, renewable energy, passive housing, cogeneration and transit-oriented development in projects such as the Vaubahn and Rieselfeld. Moreover, the city's focus on sustainable development has not deterred economic growth. Freiburg's demographic and economic growth rate outpaced the rest of Germany over the last 30 years. Freiburg also has among the highest transportation modal splits in Europe—over

60% of all trips are taken by bike, on foot, or with public transportation. By 2005, Freiburg's CO<sub>2</sub> emissions per capita in the transport sector had fallen by 13.4%, reaching a level that is 89 percent of the German national average—and only 29% of the American average (Buehler & Pucher, 2009).

### Overcoming obstacles by learning from Europe

The exchange and application of lessons from European cities to the U.S. does occur, but usually falls far short of its potential (Medearis & Dolowitz, 2009). In the U.S., most international work, especially at the city or state level, suffers from the stigma of irrelevance or even wastefulness. Regardless of the context, international work by cities in the U.S. has suffered from the lack of sustained goal-oriented, problem-focused searches, reviews, and analysis of the lessons from abroad that can be applied into uniquely U.S. contexts. Too frequently, mayors, council members, or their staff travel to Europe or other continents on trips that are often poorly structured, undisciplined, and void of information about the content and performance of the climate and energy policies. These types of trips also lack a prospective analysis about what can be applied in the U.S.—a critical issue given the vast differences between planning, environmental, energy, and climate policies at all levels in Europe and the U.S. Moreover, many exchanges and partnerships between U.S. and European cities lack equivalence. It is all too common to see exchange programs partnering up hazardous waste engineers from Milan with landscape architects from Toronto over discussions about water infrastructure financing. A similar trend is found within the foundation community. Multiple and very successful domestic climate and energy programs are funded by many national-level foundations or philanthropic organizations. However, the vast majority of international work by these same organizations is focused on assistance to developing countries. In other words, there is little formal effort to search, understand, and apply innovative energy and climate policies *from* abroad *into* the United States.

In order for the transfer of energy and climate planning policies from Europe to the U.S. to become mainstream, more needs to be done in the U.S. to demonstrate the domestic benefits of international cooperation. For starters, practitioners and policymakers in the U.S. must make efforts to formalize the search and understanding of energy and climate innovations in Europe. A number of think tanks, academic and commercial networks, are emerging that have started to bridge these gaps. These include the Free University of Berlin's Environmental Policy Research Center, the Heinrich Böll Stiftung's *Transatlantic Climate Policy Group*, the think tank Ecologic, and the German American Dialogue on Renewable Energy (GADORE). These organizations formally search, review, and analyze policy contexts and performance indicators, followed by prospectively analyzing how these innovations can fit in the United States.

Since 1998, the Northern Virginia Regional Commission (NVRC) has offered a rare model for this form of policy harvesting from Europe. Through a long-term exchange of policies, academic, business, and other commercial interests with the regional planning council of Stuttgart (Verband Region Stuttgart), planning in Northern Virginia has been transformed. Real-time signage is now deployed on the Washington Metro system and the region is home to the highest concentration of green rooftops in the United States. Recently, Northern Virginia took the transfer of European climate and energy lessons to a new level. NVRC is working with Loudoun County to develop the first "Community Energy Plan" (CEP) in the Washington, D.C. metropolitan region. With the direct support of energy and climate consultants from Germany and other European countries, the Loudoun County CEP will be among the first 20-year energy and climate frameworks with clear targets and short- to medium-term implementation strategies along with tracking measurements, reporting, and accountability.

## Recommendations

### Policy transfer priorities

As Northern Virginia and other metropolitan regions in the U.S. work to develop sustainable energy and climate policies, the following policy areas will rank high on any list of policy transfer priorities with Europe:

**Energy Efficient Buildings.** With the lack, at least for the moment, of national obligatory energy efficiency standards, and the confusion of multiple rating systems for homes and buildings, many cities and towns in the U.S. must rely on voluntary measures to promote energy efficiency in buildings. The EU experience with energy performance labels for buildings can powerfully inform home and building owners about costs and energy performance. Building labels can also be relatively easily applied on a voluntary basis in the U.S., and then incrementally raised and codified. In addition, Europe's support for policies that encourage energy efficiency and renewable energy in buildings have created a comparative advantage for many European companies in the building technologies sector. Firms from Europe already have large market shares in sectors such as foundation insulation systems, insulated triple-glazed windows and frames, motorized integrated exterior awning systems, integrated air-sealing product systems, passive housing standards, and integrated plug-in ducting systems for ventilation systems.

**District Heating and Cooling.** Many European cities rely on efficient applications of district heating and cooling systems orchestrated by integrated "energy service" companies. These companies deliver a variety of energy services such as electricity, heating, and gas. Garforth (2007) has observed that for several European cities (Copenhagen and Mannheim) the sale of heat via district heating systems has become a more profitable effort than the sale of electricity. Many regions of the U.S., such as the Northeast, require relatively similar demands for the heating of buildings and homes. Large "scale projects" could host district heating (and cooling) systems that are economic and that remove the need for individual boilers or furnaces.

**Supplemental Transportation Systems.** Transportation remains an Achilles heel of U.S. climate and energy policy. The lack of supplemental transport systems—such as light rail or bus rapid transit to support urban and regional transportation—will preclude any long-term efforts to advance mobility, access, and sustainable climate and energy practices. But signs are on the horizon as light rail in particular is gaining more acceptance. Arlington, Virginia, is planning the development of a four-mile light rail corridor along Columbia Pike and has informed multiple elements of the plan with designs and models from European cities.

**Renewable Energies.** Currently a national feed-in tariff system similar to countries such as Germany remains beyond the reach of even the most ambitious U.S. policymakers. However, California's Million Solar Roofs initiative and Gainesville, Florida's feed-in tariff systems have proven to be national pilots and were informed by Germany's experiences. Virginia's 2007 Energy Plan indicated that it has the potential to produce over 11,000 megawatts of solar photovoltaic energy and that its coastal areas are some of the most fertile in the U.S. for harvesting wind energy. It has been suggested that direct investment in these sectors could potentially reach \$27 billion as well as 62,000 new jobs by 2015 (Virginia Energy Plan 2007). Virginia's first net metering law was passed in 2008 as a result of several brief exchanges between a Virginia state legislator and his counterparts in Germany.

## Conclusion

Science is now unequivocal in its assessment that cities and urban regions in the U.S. will face enormous pressures to plan adequately for the environmental, economic, and social changes of the next 50 to 100 years. As U.S. cities and regions work to prepare for the world beyond Copenhagen, drawing from successful precedents in Europe will become a necessity rather than an option. As

this article has tried to point out that there is no shortage of lessons which U.S. cities can take from Europe. Moreover, the union of economic ties between cities and regions and the emerging networks between U.S. and European practitioners and policymakers can help sustain a more formal transfer of innovative climate and energy policies from Europe to the United States.



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## Biography

Dale Medearis is Senior Environmental Planner for the Northern Virginia Regional Commission. He leads the NVRC's regional climate mitigation and energy programs and manages NVRC's international environmental partnerships through the European Network of Metropolitan Areas and Regions (METREX). Prior to working for NVRC, Medearis spent 20 years at the Office of International Affairs, U.S. Environmental Protection Agency, Washington, D.C., as Program Manager for Western Europe and urban environmental programs. In that capacity, he worked to identify, analyze, and apply best practices urban environmental policies from Europe to the United States. Medearis has taught courses on environmental planning as an adjunct faculty at the University of Redlands and Virginia Tech University. He has a Ph.D. in Environmental Design and Planning from Virginia Tech University, an M.S. in Cartographic and Geographic Science from George Mason University, an MGA in Government from the University of Pennsylvania, and a B.A. in International Relations from the University of Redlands.

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