



# Transatlantic Urban Climate Dialogue *plus*

## Briefing Books

### *Transatlantic Exchange in Development of Successful Municipal Utilities: The Role of the Community Energy Planning*

Workshop #2 Fairfax, Virginia, USA  
August 25th – August 26th, 2014

#### **Published by**

Environmental Policy Research Centre (FFU)  
Freie Universität Berlin  
Innstraße 22, 14195 Berlin

#### **Editors**

Margarita Doneliene, Petra Schuck-Wersig (FFU)

# Transatlantic Urban Climate Dialogue *plus*: The Journey so Far

## Introduction and Background

Since 2011, communities from the regions of Ontario (Canada), Northern Virginia (United States), Stuttgart and the Ruhr (Germany) have formed a very unique partnership involving the cross-national exchange and application of innovative community energy planning policies and technologies. The partnership has proved noteworthy for a number of reasons.

The first is the problem-focused and outcome-oriented exchanges of energy innovations that have transformed local and regional energy planning on both continents. District energy plans are being implemented in Guelph. These energy plans were inspired by the work of Dinslaken. Regional transportation planning in Northern Virginia has been enhanced by the experiences of Stuttgart.

The TUCD partnership is exemplary for the ways in which the US, Canadian and German urban regions brought together the appropriate groupings of elected officials, technical experts, commercial representatives and practitioners. Together they could assess how the essence of energy innovations could transfer across the Atlantic despite very different local norms and legal and technical contexts.

## Workshops' Structure

Each workshop has been organized around a specific set of shared technical and policy challenges and facilitated through conversations about the appropriate application of various energy policy and technical tools such as large-scale building retrofits, social inclusion and economic development, district energy and the integration of waste-to-energy, the role of municipal utilities, solar PV or public transit.

## Implementation

The implementation of the energy plans on both continents proceeds because the participants have expressed a desire to improve understanding about achieving appropriate scale by combining the various core themes and tools reviewed in the previous five workshops. Implementation at community-wide, or even region-wide, scale remains a critical challenge for successful realization of Community Energy Plans in both Europe and North America. Although some regions have advanced further than others in creating scale, the pioneering communities that form the TUCD see there is still a lot to be learned from understanding how key aspects either hinder or facilitate achieving scale.

## Lessons to be Learned:

- Legal restrictions governing land-use zoning
- The roles and integration of municipal and regional utilities in scale transformations
- The role of public transit
- The role of architectural and urban design

## Final TUCD+ Workshop

The final TUCD workshop will be held August 25-26, 2014 at George Mason University. There are two main themes that will be addressed:

- 1) To assess the ways in which variance of scale (from the level of the neighborhood to the city) has been appropriately considered in the implementation phases of Community Energy Plans and how this has been guided by objective performance benchmarking over the past three years in the four participating regions;
- 2) To assess appropriate no-cost or voluntary institutional support mechanisms that would sustain the valuable TUCD partnership in the absence of ongoing formal financial support from the German Federal Ministry for Economic Affairs and Energy.

## Program of the TUCD+ Workshop

### Monday, August 25

Venue: George Mason University  
4400 University Drive, Fairfax, Virginia 22030  
Merten Hall, Room 3300

- 900 Welcome and Introductions  
**Dr. Solon Simmons**, Vice President of Global Strategies, George Mason University Supervisor Penny Gross, Chairman, Northern Virginia Regional Commission
- 915 Review of Goals of Workshop (*To review the core elements of “scale” or “scalable” CEP sub-projects in each region; and, to review key challenges to deploying core “tools” that could accelerate the appropriate scale*)  
**Peter Garforth**, Garforth International and **Prof. Dr. Miranda Schreurs**, Environmental Policy Research Centre (FFU), Freie Universität Berlin
- 930 Keynote Speech  
The Global Significance of Sustainable Energy Planning at the Local Level  
**Michelle Wyman**, Director for Intergovernmental Affairs, US Department of Energy

- 1000 Question and Answer
- 1015 Coffee Break
- 1030 Review of the regulatory, technical, institutional and community acceptance of “scalable” projects

NOVA Case Study: Local Energy Alliance Program (LEAP) Re-Energize Reston Project

**Barbara Englehart**, LEAP, Business Development and Outreach Manager

**Background**

The Re-energize Reston Community Challenge is an effort to help the Reston, VA to improve the comfort, health performance, and value of its residential and commercial building stock. This one year long initiative, sponsored by Reston Association and the nonprofit organization Local Energy Alliance Program (LEAP), has a target of performing 1,964 Home Energy Check-Ups in celebration of this sustainable community's 50th anniversary and commemoration of Reston's founding year in 1964. In the one hour check-up, a LEAP professional Energy Coach provides a high level efficiency assessment, prioritized recommendations for improvement, and installation of immediate saving measures including energy efficient light bulbs, smart strips, and more. The low cost check-up, costing the homeowner only \$45 thanks to a subsidy provided by the local utility Dominion Power, is the first step in LEAP's more comprehensive energy improvement program for existing homes, Home Performance with ENERGY STAR.

- 1100 Facilitated Discussion
- 1130 Presentation – Germany’s Energiewende and the Diffusion of Transatlantic Innovations  
**Prof. Dr. Andreas Pyka**, Center for Research and Innovation Services, Universität Hohenheim (Germany)
- 1200 Welcome Remarks by **Dr. Angel Cabrera**, President of George Mason University
- 1215 Question and Answer
- 1245 Lunch, Southside Hall
- 1345 Stuttgart Region – Sustainable Solutions. Public participation and acceptance of dedicated sites in context with Energiewende  
**Thomas Kiwitt**, Verband Region Stuttgart, Executive Technical Director  
Description: Strategies - Achieving consensus -- Overcoming obstacles – Citizen involvement
- 1415 Facilitated Discussion
- 1445 Guelph – Overall DE Strategy and Residential Retrofit Programs  
**Alex Chapman**, Guelph, Community Energy, Acting Corporate Manager

## **Background**

Guelph continues to press on with its efforts to improve energy efficiency in the City with three key programs: District Energy, the Corporate Energy Management Plan, and the Guelph Energy Efficiency Retrofit Strategy. Each of these programs has distinct relationships, challenges, and opportunities with respect to community groups, the local utility, the regulatory framework, peer municipalities, national NGOs, and governments at the provincial, federal, and global level.

1515 Facilitated Discussion

1545 NRW

(1) Bottrop – Innovation City Residential Retrofits  
**Bernd Tischler**, Mayor of Bottrop

## **Background**

Core Points: Progress of the project “InnovationCity Ruhr” – Master Plan Climate-Suitable Urban Reconstruction – Establishment of “Quartiermanagement” – Support Program for Energy Efficiency of Buildings – ICR as a real lab

(2) Variances of scale in the implementation of Community Energy Plans  
**Dr. Irene Wiese-von Ofen**, Agenda21, Forum Essen

## **Background**

CEP from the Ruhr Perspective-Planning Responsibilities of Communities – Competition Initiatives

1625 Facilitated Discussion

1640 Adjourn - Depart by Bus for The Winery at Bull Run  
15950 Lee Highway, Centreville, Virginia 20120  
Tel: 703-815-2233  
<http://www.wineryatbullrun.com/>

1700 Wine Tasting and Discussions at The Winery at Bull Run

1915 Dinner at Blue Iguana Restaurant, Chantilly, Virginia

Return to Hotel by Bus

## **Tuesday, August 26**

Venue: Boardroom of Hotel, Residence Inn, By Marriott, Fairfax City, 3565 Chain Bridge Rd. Fairfax VA 22030

900 Review of Day 1  
**Prof. Dr. Miranda Schreurs**, Environmental Policy Research Centre (FFU), Freie Universität Berlin

- 915 Keynote Presentation – The Role of Green Infrastructure Planning in the Context of CEP Implementation  
**Dr. Matthew Rice**, George Mason University
- 945 Question and Answer
- 950 Coffee Break
- 1000 NRW  
(3): Dinslaken on its Way to CO2-free Districts  
**Dr. Michael Heidinger**, Mayor of Dinslaken
- 1020 Review of the Future of the TUCD Partnership (structure, participating communities, and priorities) – Perspective of the Policymakers
- Stuttgart  
**Dr. Nicola Schelling**, Verband Region Stuttgart, Regional Director  
Core Points: Science & Technology - Sustainable Mobility – Green Infrastructure – Energy Efficiency – Climate Change - Economics
- Guelph  
**Alex Chapman**, Guelph, Community Energy, Acting Corporate Manager  
Core Points: Economic Development through sustained cooperation – Shared experiences in scaling up Green initiatives – Institutional structures – Ongoing community engagement and motivation – Influencing regional and national policy
- NOVA  
**Mark Gibb**, Northern Virginia Regional Commission, Executive Director & **Dale Medearis**, Northern Virginia Regional Commission, Senior Environmental Planner  
Core Points: Evolution of the Climate Atlas Project
- NRW/Bottrop  
**Bernd Tischler**, Lord Mayor of Bottrop  
Core Points: Transformation research – Evaluation of process – Testing new forms of citizen or company activation – Need for external financing
- NRW/ TU Dortmund/Universität Duisburg-Essen  
**Dr. Irene Wiese-von Ofen**, Agenda21, Forum Essen  
Core Points: Possibilities of self-sustaining cooperation – International network of universities
- 1135 Coffee Break
- 1120 Sustaining and Forwarding TUCD Partnership - Roadmap for Future TUCD Partnerships
- 1200 Lunch
- 1300 Adjourn

1500 Walking Tour of [Alexandria Waterfront Project](#) with  
Karl Moritz, Acting Director of the City of Alexandria Planning  
Department

1700 Dinner at Union Street Public House

# District Energy Strategic Plan for the City of Guelph

## Executive Overview<sup>1</sup>

Guelph's internationally recognized Community Energy Initiative (CEI) sets out ambitious greenhouse gas and energy reduction targets for the community to be achieved by 2031.

Currently, the energy required to heat and cool homes and buildings accounts for about half of Guelph's total energy use and is a major contributor to greenhouse gas emissions. In order to achieve the targets set out in the CEI, it is necessary that the efficiency of the heating and cooling of homes and buildings be greatly improved.

Around us, the Ontario government has made significant investments in renewable energy. Looking forward, experts anticipate major changes will take place in energy and environmental legislation, fuel availability, commodity pricing and alternative energy technologies. Clearly the time is right for conventional energy strategy to make way for structurally new approaches. This landmark document sets out a vision for Guelph as a prosperous, cleaner and healthier community powered by a secure, reliable, affordable and sustainable district energy system supplying at least 50 per cent of the heating needs of residents, as well as commercial, institutional and industrial facilities. This district energy network would be practically invisible, forming an integral part of the infrastructure of the city and installed with other basic networks such as electricity, water and sewage.

The Guelph District Energy Strategic Plan provides background information on district energy systems, benefits for individuals and communities and compelling examples of successful district energy networks in operation in other cities. The report then outlines how a community-wide district energy network in Guelph could grow from a modest beginning with energy centres in two "high-priority" areas — downtown and the Hanlon Creek Business Park—and evolve over the years with the addition of other "medium priority" areas to form an interconnected grid capable of providing large portions of the city with economical heating, cooling and domestic hot water.

The result would be a significant drop in energy use and greenhouse gas reductions, positioning Guelph as one of the top energy performers in Canada, helping to combat climate change and establishing the community as Canada's District Energy Centre of Excellence.

For further information see:

[http://guelph.ca/wp-content/uploads/011514\\_DistrictEnergyStrategicPlan\\_web.pdf](http://guelph.ca/wp-content/uploads/011514_DistrictEnergyStrategicPlan_web.pdf)

---

<sup>1</sup> Published by ENVIDA community energy and Guelph Hydro Inc.

## Speakers Biographies

**Alex Chapman** has an extensive international background and experience in multiple industries and organization types. He brings outstanding leadership to the energy management discipline. He worked in twelve different countries in such sectors as municipal government, large-scale construction, professional services, heavy industry, federal government, academia, and retail with organization types ranging from entrepreneurial ventures to one of the world's largest transnational partnerships. Currently Mr. Chapman works as an Acting Corporate Manager, Community Energy of the City of Guelph.

**Barbara Englehart** is the business development and outreach manager for LEAP in the Northern Virginia region. She has the responsibility to build and foster collaborative relationships with local governments, network contractors, financial institutions, civic organizations, local businesses, NGOs, utilities, and homeowners to facilitate and promote the building of healthier, more comfortable and higher performing space in Northern Virginia. Prior to joining LEAP, Barbara worked as an independent business sustainability consultant helping organizations reduce their negative impacts to the environment and human health. She created a model which guides businesses on the use of energy, water, materials, and toxic control to implement solutions that are good for the planet and good for the bottom line. Prior to her work in business sustainability, Barbara worked at MCI and Verizon where she was the director of Product Marketing for Global Voice over the Internet. Early in her career, she worked for Arthur Andersen & Co. as a certified public accountant. She has a bachelors degree from the University of California, Berkeley and a masters degree from the UCLA Anderson School of Management.

**Dr. Michael Heidinger** is Mayor of Dinslaken. He studies economics and since 2000 he holds a degree of Dr. rer. oec. He worked as a referent of the SPD-parliamentary group for work, health and social affairs. From 2005 to 2009 he worked as a head of the Unit Employment Policy and Vocational Education of the Ministry for Work, Health and Social Affairs of North Rhine-Westphalia.

**Thomas Kiwitt** is Managing Director at the Verband Region Stuttgart (Regional planning commission).Kiwitt is head of the department of regional planning in one of Germany's most densely populated and prosperous regions. He leads the implementation of Stuttgart Region's spatial strategy for mitigation and adaptation, which comprises the enforcement of mandatory guidelines for spatial development, consultancy and support services for local authorities and research activities. Recently he coordinates a pilot project to improve sustainable transportation in Stuttgart Region. Within the European Network of Metropolitan Areas and Regions (METREX) he is a member of the working groups for major infrastructure and urban-rural cooperation. He is a member of the German academy for spatial research and planning study group for regional planning and the Baden-Württemberg committee. He is a lecturer and member of the advisory board at the masters program for city planning at the University of Applied Sciences in Stuttgart. Kiwitt holds a "Diplom-Ingenieur" degree for

spatial and environmental planning from the University of Kaiserslautern, Germany. Prior to working for Stuttgart Region, he has been working for cities and regions in Germany as well as for the metropolitan administration of Jakarta, Indonesia.

**Prof. Dr. Andreas Pyka** has studied Economics at the University of Augsburg and has a doctoral degree in political science from the University of Augsburg. He worked as a visiting Professor at the Austrian Research Centers "System Research" in Vienna. After habilitation at the University of Augsburg, he became a Professor of economic theory at the University of Bremen (2006-2009). Later he worked as a Visiting Professor at the Technical University in Delft (2008) and as a Professor of innovation economics at the University of Hohenheim (since 2009). Since 2012 he works as a Research professor at the Halle Institute for Economic Research. His research fields include Modern Innovation Theory, Industrial Economics, Complexity Economics, Neo-Schumpeterian Economics and Industrial Dynamics, Biotechnology Industries, Energy and Innovation, Innovation Networks and R&D Policy.

**Dr. Matthew Rice**, Assistant Professor, Department of Geography and Geoinformation Science, College of Science, George Mason University. Dr. Rice has received several grants and support from the Army Geospatial Center, the National Geospatial Intelligence Agency, and the National Science Foundation. His recent research addresses the use of geospatial technology for transportation and crowdsourcing to support navigation for the disabled, and the use of geographic information systems and geo-visualization in spatial decision support. Dr. Rice holds a Ph.D. in Geography from UC Santa Barbara, where he worked as a research assistant at the National Center for Geographic Information and Analysis (NCGIA).

**Dr. Nicola Schelling** studied law at the Philipps-University Marburg. She then worked as a judge and prosecutor. From 2002 to 2004 she worked as a consultant for cross-border in the state of Baden-Württemberg (European Division). From 2004 to 2006 as a National Expert at the European Commission in Brussels and from 2006 as a Head of Unit for cross-border and interregional cooperation at the State Ministry of Baden-Württemberg. Since 2014 she works as a Regional Director at the Verband Region Stuttgart.

**Prof. Dr. Miranda Schreurs** is the director of the Environmental Policy Research Centre and Professor of Comparative Politics at the Freie Universität Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. Schreurs' work focuses on comparative environmental politics and policy in Europe, the US, and East Asia. She was born and raised in the United States and has also lived for extended periods in Japan and Germany and briefly in the Netherlands. Her PhD is from the University of Michigan and her MA and BA from the University of Washington. She has also spent time researching or teaching at Harvard University, Utrecht University, the Freie Universität Berlin, Keio University, Chuo University, and Rikkyo University and has held fellowships from the SSRC-MacArthur Foundation Program on International Peace and Security Affairs, the

Fulbright Foundation, and the National Science Foundation/Japan Society for the Promotion of Science. In July 2008 Schreurs was appointed to the German Advisory Council on the Environment. Her key research areas are: Environmental governance, climate change policy and politics, energy policy, German, EU, US and East Asian environmental policy.

**Bernd Tischler** began his term as Lord Mayor of Bottrop in 2009. He was elected as a technical deputy of the city of Bottrop in 2004. Part of his department is the building agency, the urban planning agency, the survey agency, the cadaster agency, the building inspection agency, the civil engineering agency, the environmental agency, the public green space agency and the department of building stock. Tischler's department also oversees the sports and public pool facilities of Bottrop. Tischler holds a diploma in city and regional planning from the University of Dortmund. After a traineeship with the county government in Cologne, Tischler passed the state examination for higher technical administrative service in 1987 in Frankfurt. He then worked as a deputy chief officer in the agency for city development and economic promotion of the city of Dormagen. In 1989 Tischler transferred to the city of Bottrop where he started working as a department chief for environmental planning. He then worked as a department chief for obligatory area development planning and later became deputy chief officer. In 1995 Tischler was promoted to the post of chief of the city planning agency that was charged with tasks regarding urban renewal and the tasks of the housing office. In 1996 he was appointed to the post of an executive building director. During his time in the planning office, Tischler played an important role in major building projects, the reactivation of industrial fallow lands, for instance the former "Hüls-Area" (Hüls-Gelände), and in the establishment of Warner Bros. Movie World and the Alpin-Center. Among his special projects as chief of the planning office is the ongoing renewal of the Bottrop downtown area and the renewal of the land-use plan. Tischler represents the interests of Bottrop in meetings, such as those of the Emscher association (Emschergenossenschaft) in Essen. He is also part of several administrative boards. He volunteers as a director of the not-for-profit construction company Bottrop.

**Aimee Vosper** works as a Director of Planning and Environmental Services at the Northern Virginia Regional Commission. Vosper joined NVRC after almost 10 years in local government with the City of Alexandria. A licensed Landscape Architect for nearly 29 years, her role at NVRC is considered essential to the development of partnerships and project facilitation. She has an expertise in environmental and planning programs on the regional level including a depth of knowledge and working experience for the Four Mile Run Watershed and Project Corridor. She has extensive experience as a Project Administrator, and 5 + years in a Principal role as Director of Planning and Environmental services. Vosper coordinates and manages staff with programs that include conservation and land use planning, environmental master planning, heritage and cultural resources, multi-modal transportation including trail coordination and development across the region, climate change adaptation, water quality and water quantity of local streams and major rivers, smart growth and community energy planning, land use planning and "charrette" facilitation. Her responsibilities include

development of energy initiatives, coordination and leadership in the Four Mile Run Stream Restoration Master Plan implementation, oversight of regional environmental watershed activities, monitoring of the Commonwealth's land planning legislation and development and coordination of regional and national trail initiatives, such as the East Coast Greenways and the Potomac Heritage National Scenic Trail.

**Dr.-Ing. Irene Wiese-von Ofen** works at the Agenda21 Forum Essen.

She graduated as Diplom-Ingenieur from the Technical University Aachen (Germany), followed by the postgraduate studies in town-planning, doctor's degree in urban planning with distinction. Professional career and activities include:

1962 – 1990 City of Essen, office of Town-Planning Research, Spatial Planning and Urban Renewal; 1990 – 1998 Deputy Mayor of the City of Essen, Head of the Department for Housing and Planning, Construction, Building License, Sanitation, Traffic, Real Estate and Heritage Protection; 1985 – 1998 Member of several commissions of the German "Städtetag" (Community of German cities). She is also a Jury member and chair of several national and international urban competitions.

As the Director of Intergovernmental Affairs in the Office of Congressional & Intergovernmental Affairs at the U.S. Department of Energy, **Michelle Wyman** leads the Department's engagement activities with State, territorial, city, and local governments on issues across the DOE complex, including renewable energy, science, fossil energy, and environmental clean-up. She has worked on climate and energy policy with states and local governments for over 15 years. In close consultation with regional and local governments and their constituencies Wyman has developed strategic and tactical solutions to their energy planning, climate mitigation and adaptation challenges. Her extensive experience prior to joining the Department of Energy includes founding Applied Solutions- Local Governments Building a Clean Economy, and leading International Council Local Environment Initiatives (ICLEI) USA, both of which are nonprofits engaging directly with cities, counties, and states on clean energy and climate issues. Wyman has served in a wide variety of leadership capacities. As the international climate director for ICLEI Global, she led local governments' work with the World Bank, United Nations and other multilateral institutions. She has also served as the Natural Resources Director for the City of Fort Collins, Colorado, and established a public sector practice focused on climate protection and sustainable development for Reed Smith LLP, based in Washington DC. Her areas of expertise include climate mitigation and resiliency planning and policy, environmental and energy policy and sustainable development.