

## Energy Policy and the Transportation • Land Use • Environment Connection

### The Transportation - Land Use - Environment Connection

UCLA Conference Center at Lake Arrowhead

October 16-18, 2011

#### Overview

The UCLA Lake Arrowhead Symposium is a collaborative enterprise that brings together researchers, practitioners, and stakeholders each fall to discuss and debate the transportation – land use – environment connection. This fall, we will focus on the increasingly central role of energy in the transportation – land use – environment connection. Rapidly rising global oil prices and the ongoing nuclear power crisis in Japan suggest that this topic is timely and important.

Experts differ in their opinions about when oil production will peak – if it hasn't done so already – and exactly when we can expect a tapering of supply in the face of rising global demand. Many argue that we must rely more on technological advances to improve our extraction techniques, better and more efficiently manage our supply, and reduce consumption. Others argue that we must transition to alternative energy forms that will reduce our reliance on oil. However, in deciding which path to pursue, many questions still remain.

Advances in efficiency may hold part of the answer, but even in evaluating, for example, which transportation modes are most efficient, it is not clear whether to evaluate based on the potential of technologies, the behaviors around their use, or utilization rates. And, while options abound, there is little consensus on which alternative energy sources should be pursued, and whether and to what extent public policy should steer the process. Should we switch to new sources such as bio-fuels, or would conservation efforts be more cost-effective? What are the land use implications for renewables? What are the energy consequences of alternative forms of development, and how do these compare relative to changes in vehicle fleet?

The analysis needed to yield wise and prudent decisions is difficult in the face of considerable uncertainty. What are recent advances in life-cycle analyses, and is there a clear path for balancing net benefits/costs over short, medium, and long-term horizons? How are cities and regions coping with and overcoming the challenges of creating local programs in the context of global warming?

Speakers include experts on energy markets, alternative energy sources, and conservation, and will consider the role of energy in transportation systems, land use and development, and environmental policy in the coming years. Likewise, speakers will discuss how past policies in transportation and development have shaped the way we consume and produce energy. This symposium is intended for policy decision-makers and analysts in the public and private sectors whose work concerns land and transportation systems and their environmental consequences. Our speakers and audience members are purposefully heterogeneous to stimulate thoughtful discussion and debate among all participants. We hope you will join the conversation this fall at Lake Arrowhead.

#### *Symposium Co-Organizers:*

**Florentina Craciun**, Program Director, Lewis Center for Regional and Policy Studies, UCLA Luskin School of Public Affairs

**Brian D. Taylor**, Professor of Urban Planning; Director, Lewis Center for Regional and Policy Studies; Director, Institute of Transportation Studies, UCLA Luskin School of Public Affairs

**Allison Yoh**, Associate Director, Lewis Center for Regional Policy Studies; Associate Director, Institute of Transportation Studies, UCLA Luskin School of Public Affairs

# Program

**Sunday, October 16, 2011**

1:00 pm Registration, Check-In, & Refreshments

1:30- 2:00 **WELCOME AND SYMPOSIUM OVERVIEW**

- Brian D. Taylor
- Florentina Craciun
- Allison Yoh

2:00-3:30 **ENERGY TRENDS IN THE GLOBAL CONTEXT**

The symposium's kick off session will provide a brief orientation of current debates in the field of energy policy. This session sets the context for the next two days of discussion by looking at energy trends in California, the US, and the world. Speakers will explore the expected changes in our energy sources, consumption, and the consequences of changing travel and development patterns and needs. The challenges and opportunities for transportation, land use, and environmental policy will be discussed, especially in light of short-term volatility of oil prices, political instability of oil producing countries, and the urgency of environmental problems. The session will further look at how to balance global energy goals with local needs, and briefly discuss the challenges of moving to renewable sources.

***Moderator: Allison Yoh***

- **Strengthening the Energy, Transportation, Land Use, and Environment Connection: Critical Policy Questions and Why They Matter for Energy Policy**
  - JR DeShazo, Director, Luskin Center for Innovation, Luskin School of Public Affairs, UCLA
- **What Do We Know about Energy Use in the Transportation Sector?**
  - David Greene, Research Staff, Oak Ridge National Laboratory
- **The Energy Consequences of Alternative Forms of Development**
  - Jerry Walters, Principal, Fehr & Peers

Discussion

3:30-3:45 Break

3:45-5:30 **ENERGY POLICY AND PLANNING: FINANCING MECHANISMS**

Navigating a complex menu of options from Renewable Portfolio Standards (RPS) to federal incentives and tax breaks, this session will explore the present and future state of energy financing needs. Speakers will look at ways of improving government incentives to stimulate growth in renewable energy production, as well as concrete examples of RPS success stories. The session will explore current approaches and identify feasible alternatives and future innovations

***Moderator: Catherine Showalter, Former Director Public Policy Program, UCLA Extension***

- **Perspectives on Renewable Energy Financing**
  - James Bassett, Instructor, UCLA Extension
- **Local Initiatives, Successes, and Challenges in Financing Renewable Energy**
  - Cisco DeVries , President, Renewable Funding LLC.
- **Financial Products to Stimulate Renewable Energy Investments**
  - Fran Inman, Senior Vice President, Majestic Realty

Discussion

5:30-6:30 Check-in and Reception

6:30-8:00 Dinner

8:00-9:30 **THE FUTURE OF PETROLEUM**

Experts differ in their opinions about when oil will peak – if it hasn't already – and exactly when we can expect a tapering of supply. Many have argued that in response, we must rely more on technological advances to improve our extraction techniques, more efficiently manage our supply, and reduce consumption. Others have argued that we must immediately transition to alternative energy forms that will reduce our reliance on oil. One thing is clear: oil supplies will dramatically decline at some point. How must we plan for that inevitable consequence? Speakers will address current projections and research, and deliberate on the most effective and feasible mitigation options. What political, technological, and implementation obstacles stand in the way of moving toward a more sustainable future?

***Moderator: Paul Sorensen, Associate Director, Transportation, Space and Technology, RAND Corporation***

- **The End of Oil? Arguments for and Against Petroleum Retaining its Central Role in the Mid-Term**
  - Donald Paul, Executive Director, USC Energy Institute and William M. Keck Chair of Energy Resources
- **Reasonable Expectations and Strategies for Reducing Oil Consumption**
  - Darrell Clarke, Beyond Oil Co-Lead, Sierra Club, Los Angeles Chapter

Discussion

9:30-11:00 Informal reception

**Monday, October 17, 2011**

7:45 – 8:30 am Breakfast

8:30-10:15 am **ENERGY AND TRANSPORTATION: VEHICLES AND FUELS**

The first session of the day will delve into the topic of energy and transportation from a vehicle and fleet perspective. This panel will explore issues of energy usage in transportation and the options available for reducing energy consumption, either through small projects or through sweeping, large-scale changes. Speakers will discuss policies regulating the fuel efficiency of traditional combustion engines, as well as opportunities and challenges for increasing the use of alternative vehicles like electric cars and natural gas vehicles. We'll also discuss implementation and deployment strategies for new technologies in the goods movement sector, and consider whether and when to start small or implement in wholesale to achieve network benefits.

***Moderator: Stephen Finnegan, Manager, Government Affairs and Public Policy***

- **The Case for Vehicle Efficiency Regulations: The Past, Present, and Future of CAFÉ Standards**
  - Nic Lutsey, Post-doctoral Research Fellow, UC Davis
  
- **Opportunities and Challenges Facing Electric Vehicles**
  - David Raney, Principal, Raney Associates
  
- **The Future of Natural Gas Vehicles**
  - Todd Campbell, Vice President, Public Policy and Regulatory Affairs, Clean Energy
  
- **Energy Use in Goods Movement: Trends and Inter-Modal Comparisons**
  - Henry Hogo, Assistant Deputy Executive Officer, Mobile Source Division, Science and Technology Advancement, Air Quality Management District

Discussion

10:15–10:30 Break

10:30-12:00 pm

**ENERGY AND TRANSPORTATION: SYSTEMS AND BEHAVIORS**

Technological advances in vehicle efficiency and fuels are necessary (though not likely sufficient) in abating energy consumption in the transportation sector. In order for energy consumption patterns to change, systems and behaviors (of both firms and households) must be addressed. This panel will explore the connection between behaviors, transportation systems and energy consumption. Speakers will discuss the effects of high gas prices on travel behavior and whether or not public transit use actually reduces energy consumption. To what extent can we effect changes in energy consumption by better managing congestion on our road systems? And finally, what do life-cycle analyses at different time horizons suggest for policymakers and planners working in passenger transportation?

*Moderator: Maria Mehranian, Managing Partner, Cordoba Corporation*

- **The Effects of Energy Prices on Travel Behavior**
  - Mark Jacobsen, Assistant Professor of Economics, UC San Diego
- **Energy Consumption by Transit Vehicle Type in San Francisco: The Policy Implications of Funding Transit Investments vs Life Cycle Analysis**
  - Peter Brown, Project Manager, Sustainable Streets Division, San Francisco Municipal Transportation Agency
- **Reducing Energy Consumption and Emissions Through Congestion Management**
  - Kanok Boriboonsomsin, Assistant Research Engineer, Center of Environmental Research and Technology, UC Riverside
- **Life-Cycle Analysis Of Passenger Transportation: Energy Consumption and Emissions**
  - Mikhail Chester, Assistant Professor, Civil, Environmental, & Sustainability Engineering Program, School of Sustainable Engineering and the Built Environment, Arizona State University

Discussion

12:00-1:30

Lunch

1:30-3:15

**ENERGY PLANNING AND LAND USE**

The California Department of Transportation (Caltrans) projects that by 2030, vehicle miles travelled will increase by 61 percent from 2007 figures. Considering the landmark legislation of SB375, this session will turn its attention towards land use and energy planning. The speakers will explore questions of sustainable development and energy efficient buildings as a way to meet our energy goals, and conversely, how energy

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policies have shaped our development and construction patterns. The session will explore some of the challenges in moving to new energy systems that are inextricably linked to development, such as land use regulations, siting of power generators, and how to transmit power from production sources to points of consumption. The conversation will also explore how land use decisions and other energy policies can affect regional life line systems such as the movement of food and water

**Moderator: Donald Shoup, Professor of Urban Planning, UCLA Luskin School of Public Affairs**

- **Health, Food Miles, and Agricultural Displacement From Biofuels Production**
  - Eric Holt-Giménez, Executive Director, Food First
- **SB375 Sustainable Communities Strategy Implementation: Reducing Energy Use through Regional Planning**
  - Susan Freedman, Senior Regional Energy Planner, San Diego Association of Governments
- **Energy Needs of Urban Systems: Moving Water and Patterns of Development**
  - Ethan Elkind, Environmental Law Fellow, UC Berkeley and UCLA

Discussion

3:15-5:30

Free Time

5:30-6:30

Reception

6:30-8:00

Dinner

8:00-9:30

### **ENERGY AND ENVIRONMENTAL GOALS: CONGRUENCE OR CONFLICT?**

The last session of the day will look at energy and environmental goals and how they may be synergistic or at odds with each other. While some believe that stark choices await us between energy needs and environmental protection, others believe that policies in both domains can be complementary. Speakers will explore questions of large scale renewable projects and their potential environmental impact as well as the future of nuclear power, particularly in light of lessons learned from Japan's experience. We will discuss also relative magnitudes of risk. Should energy policy be driven by environmental goals or national security? And what are newest techniques for evaluating returns on investment at different time horizons?

**Moderator: Florentina Craciun**

- **Is Natural Gas Conversion the Answer? Evaluating the Environmental Effects of Switching From Coal Combustion to Hydraulic Fracturing**

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- Michal Moore, Senior Fellow, Energy and Environmental Systems Group  
University of Calgary
  
- **Biofuels: The Land Use and Environmental Implications of Addressing Transportation and Energy Problems**
  - Sabrina Spatari, Assistant Professor, Civil, Architectural and Environmental Engineering, Drexel University
  
- **Taking the Power Out of Wind**
  - Manda Adams, Assistant Professor, University of North Carolina, Charlotte

Discussion

9:30-11:00

Informal Reception

**Tuesday, October 18, 2011**

7:45-8:30 am

**BREAKFAST SESSION “SMALL TABLE” DISCUSSIONS**

During breakfast, conference participants are invited to join moderated, small-group conversations reflecting on the presentations and discussions heard over the past day and a half. This is a time to engage with others and to reflect on the ideas, experiences, and solutions we’ve heard so far – with particular attention to the issue of building a unified vision and consensus for change. These comments will later be incorporated into discussions following the morning presentations.

8:45-10:15 am

**LOCAL ACTIONS ADDRESSING GLOBAL ENERGY ISSUES: TALES FROM THE FIELD**

This session will present some concrete examples of programs and initiatives that, though focused in geographic application or scale, can have long-term and far-reaching effects on energy planning. Speakers will present examples of programs that attempt to integrate energy planning with transportation and land use systems and environmental policy. Presenters will reflect on the successes and challenges of these innovative programs to derive lessons that can be applied to new efforts.

***Moderator: Jacki Bacharach, Executive Director, South Bay Cities Council of Governments***

- **Fitting 12,000 MW into our communities: Building New Power Sources and Deploying Local Distribution Grids**
  - Michael Picker, Senior Advisor to the Governor for Renewable Energy Facilities
- **Green Parking Projects: Overcoming the Technology and Business Challenges of Providing free EV charging Stations**
  - Richard Pelletier, Senior Designer, BMW Designworks USA
- **UC Davis Example – West Village Zero Net**
  - Ben Finkelor, Program Manager for the Energy Efficiency Center, University of California, Davis

Extended Discussion

10:15-10:30

Break

10:30-12:00 pm

**ENERGY FOCUSED TRANSPORTATION, LAND USE AND ENVIRONMENTAL PLANNING: ROLES, RESEARCH, TOOLS AND PRACTICES**

The closing panel will look at the implications of shifting energy policy and markets on transportation, land use and the environment. Speakers will address the changes that must happen within research and practice for long lasting effects to occur. The lively discussion and presentation from the past two days will be brought to conclusion with a



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conversation on the future of energy policy and how to better incorporate it with existing systems and behaviors. What should our research agenda look like? What are the tools and strategies available and which are still to come? What are some of the practices we need to revise and implement?

**Moderator: Brian Taylor**

- **Presentation of Small Table Discussion Conclusions:**
  - Rick Wilson, Ph.D. FAICP, Professor, Department of Urban and Regional Planning California State Polytechnic University, Pomona
  - Hillary Norton, Executive Director, Fixing Angelenos Stuck in Traffic
  - Jesse Glazer, ITS Engineer for Southern CA, Federal Highway Administration
  
- **Concluding Remarks and Next Steps for Energy Policy**
  - Hasan Ikharta, Executive Director, Southern California Association of Governments
  - Michal Moore, Senior Fellow, Energy and Environmental Systems Group University of Calgary

12:00-1:30

Concluding Lunch