State legislators and senior legislative staff may find it difficult, amid the clamor of lobbyists and special interest groups, to uncover the facts about the technical and fast-changing world of energy issues. Each of the more than 7,400 legislators across the nation must deal with thousands of bills each session and need timely and relevant information on the topics of interest to their state and constituents. The NCSL Energy Institute was developed in 1996 from this need and was designed to give legislators and staff balanced, in-depth and concise information about energy issues.

The Energy Institute on Distributed Resources was a two-day seminar for a small group of legislators, senior legislative staff, and state energy officials to intensely discuss the potential of distributed resources to fundamentally alter the electric utility industry and its regulatory framework. The meeting's primary intention was to deal with the hype-excitement and worry combined with a lack of objective information surrounding distributed resources.

NCSL prepared drafts of eight issue briefs on Distributed Resources. Research included interviews of experts in many different areas of the field. Final versions of the papers will be available soon. NCSL also provided two resource lists for further reading. Drafts of the briefs are attached to this document. Each attendee received a binder which included NCSL's papers, logistical information, and brochures and papers from other organizations including Honeywell, the Gas Research Institute, and the Distributed Power Coalition of America.

This Energy Institute took place on June 22 and 23, 2000 at the Denver Post Tower in Denver, Colorado—also home to the headquarters of NCSL. On June 23, attendees visited the site of a Capstone microturbine operating near Denver International Airport. This visit gave attendees a concrete example of the technologies and issues discussed at the Institute.

In attendance at this Energy Institute were a total number of eighteen state officials including thirteen state legislators and legislative staff from Connecticut, Iowa, Kansas, Kentucky, Mississippi, North Dakota, Oklahoma, Utah, and Wisconsin and five state
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energy officials from Kansas, Maryland, Washington, and Wyoming. Officials from the US Department of Energy, state regulatory agencies, and representatives of environmental, industry and consulting organizations rounded out the list for a total of thirty-five attendees. (Several other legislators were forced to cancel reservations shortly before the meeting, due to a variety of scheduling conflicts in their districts).

Description of Proceedings, Thursday, June 22
The first day of the Institute began with welcomes and introductions from Bill Pound, Executive Director of NCSL; Joe Galdo from the US Department of Energy; Fred Hoover, Director of the Maryland Energy Administration; Matthew Brown, Program Director for the Energy Project at NCSL; and Christina Rewey, Staff Assistant for the Energy Project. Participants were also asked to introduce themselves.

Matthew Brown began the discussion with an overview of distributed resources (DR) and the relevance of the issue for state policymakers. He focused on the important role of markets in determining the future of DR, outlining several scenarios where consumers might turn to DR. He introduced the myriad of policy issues associated with increased DR, including environmental, utility, restructuring and tax laws. In addition he profiled the complexity of DR with regard to contracts, siting, building codes, and net metering.

Dena Sue Potestio followed with a summary of the DR technologies available presently, and expectations for their development in the future. She emphasized the lack of objective field data for many of the technologies, and the prudence with which state policymakers should approach them. She placed the technologies into the context of when and where they might be used, and outlined the advantages and disadvantages of each. Her analogy likening the potential DR revolution to the single-passenger vehicle revolution caused many attendees to consider what the long-term effects of DR could be.

Mark Skowronski then gave a brief overview of microturbines - what they are and how they work. Sarah McKinley did the same for diesel and gas reciprocating engines.

The second half of the day consisted of four informative presentations and lengthy discussion. Brent Alderfer of Competitive Utility Strategies and Chuck Guinn of Strategic Guidance Associates spoke about the possible effects of DR on the future of the utilities. They described the primary policy issues standing in the way of distributed resource development. They focused on the issues that state legislatures may be able to address, and defined the roles and responsibilities of the various parties in addressing these barriers (energy offices, legislatures, PUC's, federal government etc.).

Mark MacLeod from Environmental Defense spoke about the possible environmental effects of DR. Making the point that different technologies possess different emissions profiles, he pointed out that DR could either be an environmental benefit or disaster and that policymakers should consider the law of unintended consequences.

Finally, Jay Morse of the California Office of Ratepayer Advocate (ORA) reflected on how his state is dealing with the issues brought up by DR. He provided several materials
for attendees: the ORA's March 1999 comments in DR/Distributed Competition rulemaking, ORA's opening testimony from April 2000 on DR rulemaking, and ORA's rebuttal testimony from May 2000 in DR rulemaking.

Description of Proceedings, Friday, June 23
Day two of this Energy Institute began with a visit to a demonstration site of a Capstone microturbine. David Burnett, the site's operator, and colleagues provided explanation of the microturbine's functioning and its interaction with an oil drill at the site. Powered by the microturbine, a 6,000 ft-deep drill pumps oil to the surface. Along with the oil, natural gas is captured which operates the microturbine. The site visit provided attendees with a close look at the types of tasks for which distributed resources can be useful.

After returning to the meeting location, Sarah McKinley of the Distributed Power Coalition of America gave a presentation of more detail on the benefits of DR.

Following discussion of this presentation, Erin Crotty of Plug Power spoke about the potential of fuel cells and what their place in DR could be. She provided estimates of cost and dates of commercial viability for fuel cells. Some attendees questioned her on the validity of Plug Power's estimates. A lively debate ensued on how soon and at what cost fuel cells will be widely available, and the likelihood of them bringing about the obsolescence of transmission lines.

Mark Skowronski of Honeywell talked further about the manufacturer's perspective on DR. He provided more details on the current status and projected future of microturbines.

NCSL Energy Institute on distributed resources was a successful event for everyone involved. Presentations and discussion delved into the complexity of the issue, providing legislators with a greater understanding of the policy implications for states. While the subject is undeniably complicated, state policymakers felt that they received a solid introduction to DR as well as in-depth, extensive discussion and debate with some of the foremost experts in the country. Several attendees and speakers remarked it was the most informative meeting on the topic that they had ever attended.

At the conclusion of each presentation throughout the conference, attendees had time to ask questions and/or provide feedback on their own experiences. Also, discussion time proved quite valuable for clarification of the highly complex and technical topics raised. These interactive periods during the conference seemed to provide a useful opportunity for legislators to ponder what the issues and policies could mean for their own states.

Responses from the attendees were both verbal and written. A list of quotes from the conference evaluation forms and conversation is as follows:

Successes
- An exciting and well-covered topic
- Very good presentations and debate
• Good chance for networking
• Appreciate written material
• Identified issues and questions for further work and analysis
• Good mix of legislators, staff, agency representatives, etc.
• Knowledgeable speakers, good opportunity for discussion and question and answer
• Good balance of speakers with discussion
• Most effective NCSL meeting attended in 20 years as a lobbyist, staff person, and legislator. Best coverage of the broadest scope of issues

Suggestions
• Expand to three days for very complicated topics
• Provide glossary of technical terms
• More time for debate of contentious views
• Clarify layout of notebook and written material
• More information from legislative perspective
• Ensure that more states are represented
• More specific guidance for speakers of what to cover, in order to avoid overlap
• Clearly explain to legislators that information and opinions of industry experts may not be objective

Conclusion
The Energy Institute on Distributed Resources received very favorable reviews from the attendees. The Institute is an extremely helpful and intense seminar for state legislators and staff. The small group setting provides a more intimate environment where attendees can ask questions, get involved in discussions and meet other state and federal representatives interested in the issue. The balanced information that NCSL provides through speakers and handouts is widely acknowledged and appreciated by legislators and staff. The information allows them to return to their state and inform others of all sides of the distributed energy resources energy issue. Another advantage of the Institute is it allows the legislators and staff to learn about issues with out the pressure of lobbyists. With this Institute, NCSL appears to have found the right balance of speeches and open discussion.

The Institute would improve and provide greater satisfaction to attendees if the intricate technicalities of the topic were given more time and explanation. With a topic like DR, the Institute would benefit from a list of terms and a more basic introduction to technical issues.

The Energy Institute should be continued. It is a valuable experience for legislators to quickly expand their knowledge of emerging energy issues. The Institute should be conducted on an annual or biennial basis.

A list of Energy Institute attendees, copies of speaker presentations, and copies of NCSL's issue briefs are attached.

About NCSL and the Energy Project
The Energy Project at NCSL provides state legislators current, objective information on electric utility restructuring, energy efficiency, renewable energy, alternative transportation and alternative fuels, and fossil fuel issues.

NCSL is a nonprofit, bipartisan organization that is dedicated to serving the lawmakers and staff of the nation's 50 states, its commonwealths and territories. NCSL projects and services are designed to improve the quality and effectiveness of state legislatures, foster interstate communication and cooperation and ensure legislatures a strong and cohesive voice in the federal system.