Closing Keynote – National CHP Roadmap Workshop
Mark C. Hall
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It is a pleasure to be with you here this morning to wrap up another successful CHP conference. When we first starting discussing efforts to work with all our partners and supporters to develop a CHP Roadmap[1], I saw the value of creating a document that reflected a collective and common vision. Indeed the CHP roadmap has been an excellent tool, linking our most serious challenges with actions to be taken, reminding us where we have been but more importantly where we want to go. And like the real maps that we carry in our glove compartments, there are fixed destinations and the ability to measure the distance from where we are, to where we hope to be by nightfall, by years end, at the end of the decade.

But I have always been troubled by the roadmap analogy. I guess that is because I envision that exercise as akin to one of those tour packages where we all climb collectively onto the bus and head off down the road. We all stop at the same rest-stops, eat the same rubber chicken luncheon with flavorless rice overlooking the beautiful vista with the Kodak moment sign and are then hurriedly herded back onto the bus by the tour company so we don't miss the contortionist performing at dinner at our hotel. By the way, Energetics[2] has been a great tour guide. Of course, the reality is that we don't all ride the same bus together and even if we modify my vision of the analogy so that we are all in separate cars, it still doesn't quite work because out on the road there are still limits to the numbers of onramps and exits and of course there are those pesky speed limits. No, I like to think about this process we are engaged in as more like a river.

The characteristics of a river that match the experience of promoting the widespread adoption of CHP seem to me to be much more real. First and foremost, the river starts small, as a trickle of water down a rocky crag high up in the mountains where people seldom tread. It is only a pioneering few who ever see the river at this stage of its life and fewer still who can imagine that trickle growing eventually into something wide and deep.

Equally important, the river starts out pure. Clear, cool water as yet uncontaminated by nature or the un-natural things that we subject water too in our modern society. Our experience with CHP has been so similar. We started with this simple notion of capturing wasted heat, the byproduct of electric generation so that we could conserve our precious natural resources. It was an uncluttered idea, one we exposed people to in simple language like "one-third, two thirds." As we have moved ahead we have become

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[1] The National CHP Roadmap is the result of more than 18 state, regional, national and international workshops and numerous discussions, planning studies and assessments over a two-year period. The Roadmap development process has been led by the U.S. Combined Heat and Power Association and the U.S. Department of Energy. The National CHP Roadmap is available at the website www.uschpa.org.
[2] Energetics is an energy and environmental consulting firm and a contractor for the U.S. Department of Energy

burdened with definitions of good CHP and bad CHP, increasingly butting up against other agendas and ideas that cloud the picture and slow progress.

As we know from our nations own history, there are very few rivers unchallenged by dams. Some dams are temporary, like the seasonal mud and stick creations of the beaver. Some are monstrous, huge unnatural monuments to the wealth and prowess of a conquering few. Still others are short but stout, almost unseen and unnoticed by most, thus hard to breach. On our path to expand the reach of CHP we have already encountered all these types of dams. The silly little barriers erected by the slow swimming monopoly that has been breached by a sudden storm of public outcry or the successful targeted attack. The seemingly insurmountable barriers of the market rules that we may never hope to change on our own, but by joining forces with others, we may generate enough force to overcome. And the many small but sturdy dams, some five and six decades old that are sufficient to slow and even stop good projects but which fail to be offensive enough to attract sufficient support or attention to attack them all in an organized way.

The cycle of storm and drought are also part of the natural ebb and flow of the river. Sudden cloudbursts add needed rain to the rivershed washing in nutrients for fish and insects but also dropping sticks, washing in silt and even changing the path of the river itself. These periods of heightened activity might be followed by prolonged periods of drought when the river itself seems to struggle to survive. We might think of California, Enron and round-trip energy trading as storms that have contributed to our drought of readily available financing, uncertainty of the benefits of new technology and general concerns about energy market restructuring. At the same time, new players with fresh ideas may well set the pace for the years ahead, having learned from the past mistakes of others and as eager as ever to succeed. While storms and drought provide a natural balance to the river, they both take their toll on the river's inhabitants by changing the very environment itself that may not be conducive to the old, the weak, and the reckless.

But finally, the real root of my analogy comes from the very nature of the river, made up of hundreds, thousands and eventually billions of individual drops. The most amazing thing about water is how it flows. While possible to measure average velocity, like our most basic atomic components, each water drop follows it's own path. Some drops move slowly along the edge, always touching the shore. Others dash rapidly, almost madly from rock to root to precipice. Some spend their time in the deepest crags almost never seeing the light of day while others are so eager to reach the sun they beach themselves, shrivel and quickly disappear in a wisp of steam. Some water drops are expended nourishing the plants and animals along the banks, providing sustenance to the riparian community that then follows an entirely different path. A very few drops may make it from beginning to end.

In the early days CHP was simply an idea to address our interests in producing less expensive energy through efficient use of our fuels that had the beneficial effect of producing less pollution. Now, with growing interest it still retains that essential character although masked by other parallel interests and agendas. At times, the big picture

becomes obscured by politics, or egos, technological advances or failures, like muddy floodwaters which have temporarily leapt the banks and made a run across land only to become lost, isolated in shrinking puddles until the natural order is restored. But where we have encountered dams, like outdated regulatory structures and sudden upheavals in market dynamics, we have worked together, gathering strength and numbers and through the sheer force of the conviction of our ideas, we have burst through. There are more dams, storms and droughts before us but our gathering numbers will allow us to prevail. In fact, we have become much better at working together, improving our mastery of the political process, availing ourselves of every opportunity to educate, to facilitate and to lead. As a community we have much greater depth than we had but a few years ago. We can now claim supporters from many disciplines, vocations and points of view. We are able to reach far and wide, where we once could only muster a handful of the faithful to rally around the most critical issues we now reach into regional, state and even local forums and ask that our ideas be heard across a wide range of related topics. And while individuals will come and go, a few will go deep while most will remain shallow, by sticking together and following the course we have chosen, the river will one day reach the sea and the world will embrace CHP as we have.

About the Speaker

Mark Hall has more than 10 years of experience in the energy and environmental industries as a corporate officer of a leading CHP provider in North America and as a consultant. Mark has been extensively involved with efforts to promote the widespread use of CHP. He is one of the co-founders of the U.S. Combined Heat and Power Association and co-Chaired the first two international Symposiums on CHP in the U.S and the Netherlands. He can be reached by email: mch2000@optonline.net