

THE LAST WORD

It's alive—but orphaned

At a press briefing a few months ago for a new study by Cambridge Energy Research Associates (CERA), Cambridge, Mass., the authors asserted that the near-term forecast for the U.S. electric power environment was continued “muddle.” Seeking clarification, the assembled journalists asked the executives whether they saw any solutions to the interrelated problems of electricity supply, reliability, and pricing. The answer was an unqualified “no,” a sad situation that CERA attributed to the powerlessness of the federal government to control state-level deregulatory initiatives.

Energy markets are often described as chaotic, a word which Webster's Dictionary

defines as “being in a completely confused or disordered condition.” But there is a more apt analogy: Energy markets are alive. Philosophical considerations aside, life is essentially a process involving the transformation of energy to directed growth and movement. In plants and animals, circulatory systems transport energy-rich compounds to muscles and tissues that “burn” them to grow or move. Similar processes also take place in energy systems as, for example, gas and oil move through pipelines to power plants that convert chemical compounds to heat energy to turbine movement. The combustion of fossil fuels also results in solid and gaseous byproducts, just as (most) organisms give off carbon dioxide and other waste products after energy-expending activities.

So if energy markets are alive, what does that imply for their continued growth and development? Well, for one thing, the process is inherently inefficient, thanks to the immutable laws of thermodynamics. The activity of energy markets is also untidy and vastly complicated because the unique activi-

Energy markets need parenting

ties of consumers make a collective impact on the use of available energy at any particular time and place. Supply imbalances on both a micro and macro scale are—for all practical purposes—the norm since the main drivers are weather and economic activity, which in turn change consumption patterns and exacerbate logistical bottlenecks. Impacts are proportional to consumer demand—just as in the biosphere, where energy consumption is essentially related to size and physical activity.

Finally, over time, participants in energy markets organize into separate communities with hierarchical relationships between energy transformers and users, in turn leading to competition for resources among the various groupings.

What does this mean in practical terms? On a global scale, the results are often unpleasant, since competition for access to unevenly distributed energy reserves eventually leads to shortages, and shortages can lead to aggressive efforts to secure new supplies. Also, to put it delicately, competition creates evolutionary winners and losers. On a national or regional scale, shortages can lead to crises and panics if societal “fight or flight” reactions take over: Irrational behaviors—hoarding, for example—are dictated by instinctual mechanisms. In the end, on an individual basis, it comes down to modifying or changing behavior to deal with energy cost and accessibility.

All these considerations suggest that what energy markets need is less regulation and more parenting.

During the CERA press briefing, the journalists essentially concluded that

policy planners need expert input. The dictionary defines an expert as someone who is highly informed in a special field. Who better to provide expert advice on energy market growth and development than “parents?” Parenting involves mentoring, the transfer of knowledge and understanding along with raw information. Parents seek to help their children build a referential matrix using their own experiences, hoping to avoid dangerous situations, but at the same time knowing that the only way to learn may sometimes be the hard way. Consequences build understanding and responsibility.

Biological growth and development is a continuum, a process whose individual stages cannot be readily discerned. The growth and development of energy markets is likewise a continuum, and it presents an extremely difficult problem for policy-makers and lawmakers, because producers and consumers have different experiences and expectations.

Who will step up to be the parents? As usual, there isn't much choice in the matter: the “parents” of today's adolescent energy markets are the individuals who grew up around the time of the big oil crisis in 1973 and have spent their careers learning the business and struggling to adapt existing energy policies to new realities. Of course, parental learning never stops, but greater experience allows for the more fruitful use of incoming information. Will the “children” listen, or will we suffer through more “boom and bust” supply and demand cycles, interspersed perhaps with armed conflicts? Who knows? Maybe we should ask our moms. ■

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