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AZ CORP COMMISSION
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IN THE MATTER OF THE APPLICATION OF UNS ELECTRIC, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS ELECTRIC, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA, AND FOR RELATED APPROVALS.	Docket No. E-04204A-15-0142 **COMMENTS OF JOHN A. "SKIP" LAITNER, RATEPAYERS EXPECT NEW ECONOMIC WISDOM (RENEW)**

Arizona Corporation Commission
DOCKETED
MAR 03 2016

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PROFESSIONAL BACKGROUND

I am a member, and I am filing comments on behalf of RENEW, a Tucson-based organization of residential and small commercial electric utility ratepayers. The full group name is **R**atepayers **E**xpect **N**ew **E**conomic **W**isdom. I file these comments in my capacity as an international energy and resource economist employed by my own firm, Economic and Human Dimensions Research Associates, also based in Tucson. In a career that spans 45 years, I have authored more than 320 reports, journal articles, and book chapters. My expertise includes benefit-cost assessments, resource costs and constraints, and the net employment and macroeconomic impacts of energy and climate policy scenarios. I previously served as the Director of Economic and Social Analysis for the American Council for an Energy-Efficient Economy (ACEEE) as in the years 2006 through 2012. Before that, I served 10 years as a Senior Economist for Technology Policy with the US Environmental Protection Agency (EPA). In 1998

I was awarded EPA's Gold Medal for my work with a team of economists to evaluate the economic impact of strategies that might assist in the implementation of smart climate policies. I also work in the international policy arena with clients and colleagues in France, Luxembourg, Netherlands, Germany, New Zealand and elsewhere; and I hold the position as senior research associate of the Russian Presidential Academy of National Economic and Public Administration (RANEPA). I have a 1988 master's degree in resource economics from Antioch University.

OVERALL CONCLUSION

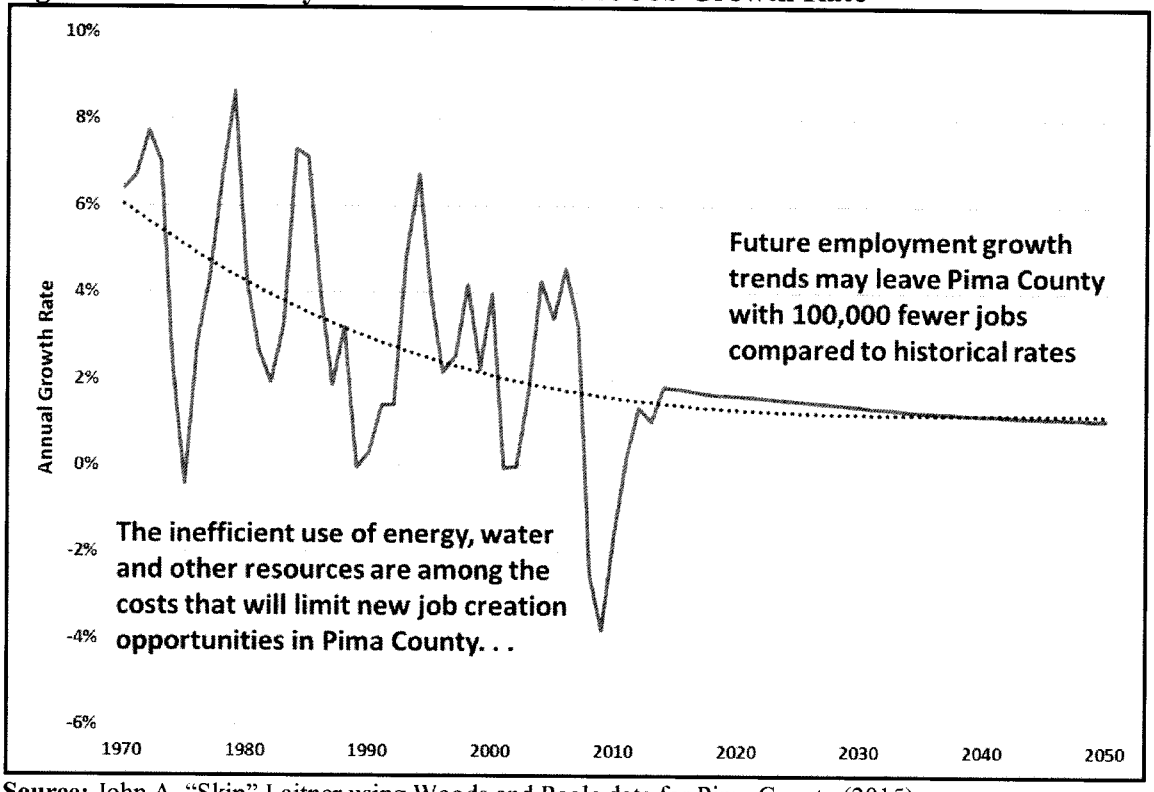
UNS Electric CEO David Hutchens suggests that the "rates proposed in this application are needed to allow UNS Electric to preserve safe, reliable and affordable electric service in an evolving energy marketplace." While I think there are a significant number of factual issues that might be challenged in the extensive testimony and exhibits filed in this case, the logic that underpins the filing is anchored to the notion of an economy that is operating within a "business-as-usual" continuum. But in fact, the economy is not at all business-as-usual. Indeed, there is emerging evidence that the economy is becoming less robust and less resilient because of the inefficient use of all resources, but especially energy. My own research suggests that the United States wastes more than 80 percent of the energy used to power the economy. That magnitude of waste creates an assortment of costs which constrains overall economic productivity. RENEW's immediate interest, therefore, is to suggest: (a) that the current ratemaking process is more of an ongoing review of commodity kilowatt-hour (kWh) sales rather than exploring meaningful value-added services which might provide greater net benefits to ratepayers and the regional economy; (b) that continuing a largely business-as-usual approach in awarding the rate increase will redirect resources away from a more prudent and less costly development of energy efficiency services and renewable energy resources; and (c) while the rate increase may provide

revenues that maintain, or even somewhat improve the current level of electricity services, it will likely result in a net loss of jobs, a more sluggish economy, a growing constraint on water and other key resources, but with little real abatement of greenhouse gas emissions. In short there is the very real likelihood of a weaker economy and the growing threat of climate change, even as a more productive business model and supporting regulatory framework might produce more win-win solutions for Arizona.

A WEAKENED ECONOMY BECAUSE OF LAGGING RESOURCE EFFICIENCY

Whether we are discussing the European Union, the Russian Federation, China, India or the United States, almost all future projections show a less robust economy that will be unable to provide sufficient jobs and income to maintain social and economic wellbeing. As suggested, the research further shows this is tied to the inefficient use of resources—whether materials and water, but especially energy. Figure 1 underscores these points for Arizona and Pima County.

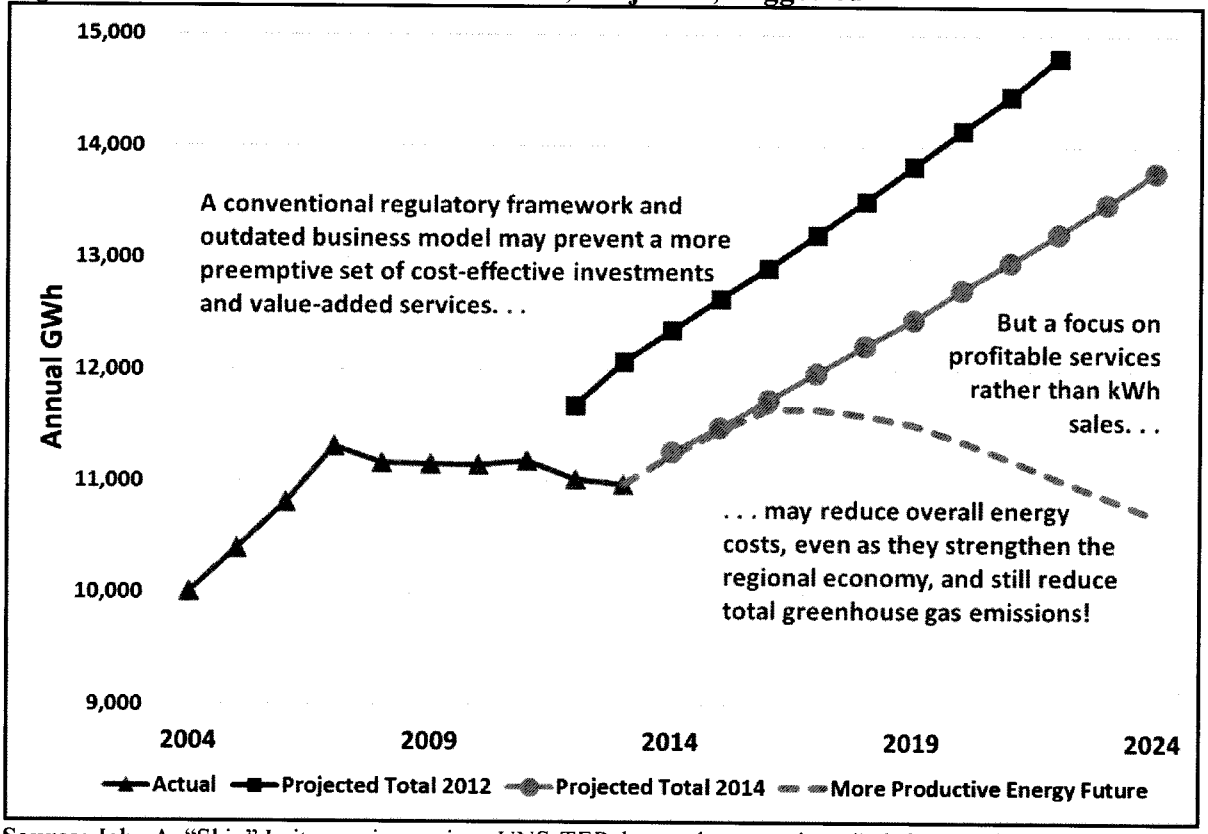
Figure 1. Pima County Historical and Future Job Growth Rate



Source: John A. "Skip" Laitner using Woods and Poole data for Pima County (2015)

At the same time, the various energy markets are beginning to shift in very new ways that are not reflected in current business plans or strategies of any Arizona utility, including UNS Electric. Figure 2, below, shows actual and projected retail sales provided by various UNS-TEP documents, as well as a trend that might be suggested by new business models to the benefit of both the utilities and the regional economy.

Figure 2. TEP-UNS Retail Sales—Actual, Projected, Suggested



Source: John A. "Skip" Laitner using various UNS-TEP data and assumptions (Feb 25, 2016)

The chart shows an admittedly limited historical time horizon over the period 2004 through 2014, and a 10-year projection out to the year 2024. Yet, clear patterns emerge. Looking at the historical decade, aggregate electricity sales peaked in 2007. Yes, the economic downturn caused sales to slump, but customers also took steps to improve their own wellbeing—especially, so it appears, the residential and commercial customers. This included efficiency improvements

as well as cost-effective solar installations. While this shift in the market was clearly unfolding, UNS and TEP were continuing to look at, plan for, and invest in what they thought would be a return to normal sales patterns, or an increase in electricity sales (i.e., "commodity-based transactions"). The 2012 integrated resource plans (IRPs) suggested, for example, a likely need for 12,000 gigawatt-hours (GWh) of sales by 2013, However, only 11,000 GWh of demand emerged in that year. Yes, we might conclude that the utilities misjudged the market and missed the mark, but the real question is why? One clear possibility is that a backward-looking regulatory framework, together with an outdated business model — one which emphasizes commodity sales rather than the more productive delivery of value-added services — may be a root cause of this misjudgment. In short, the use of a historical test-year in which the company is forced to "true up" past decisions and conventional generation investments may be the result of what psychologist Daniel Kahneman (who won the 2002 Nobel memorial prize for economics) calls the "availability bias." In effect, individuals and organizations more easily remember past business models and technology solutions without fully exploring, in this case, other options that might contribute to a greater economic and social outcome. If given the green light and the appropriate incentives to work with their customers and its larger community, the market might, instead, be opened up to produce a greater array of higher-quality, value-added services. Unfortunately, however, the Arizona Corporation Commission (ACC) neither allows, nor are the electric utility companies given the signal and the incentive to work with customers and communities in ways that enable a smarter investment in both energy efficiency and renewable energy resources. Both are critical the long-term resilience of the Arizona economy.

Still, the market continues to shift. Paradoxically, even as new products, services and solutions are now emerging within the marketplace, they are not penetrating at scale, nor at

sufficient speed to offset the economic problems which multiply – ranging from climate change (as Warren Buffet said last week in a letter to his shareholders, "It seems highly likely to me that climate change poses a major problem for the planet") to the continuing weakness and lagging productivity of the U.S. and its many regional economies. And in the midst of both opportunity and threat, there remains the unfortunate tendency to focus more on yesterday's solutions and business models rather than engaging in new ways to deliver quality, value, and new business services in ways that reduce total economic costs. The green dashed line in Figure 2 points toward the possibility of "a more productive future."

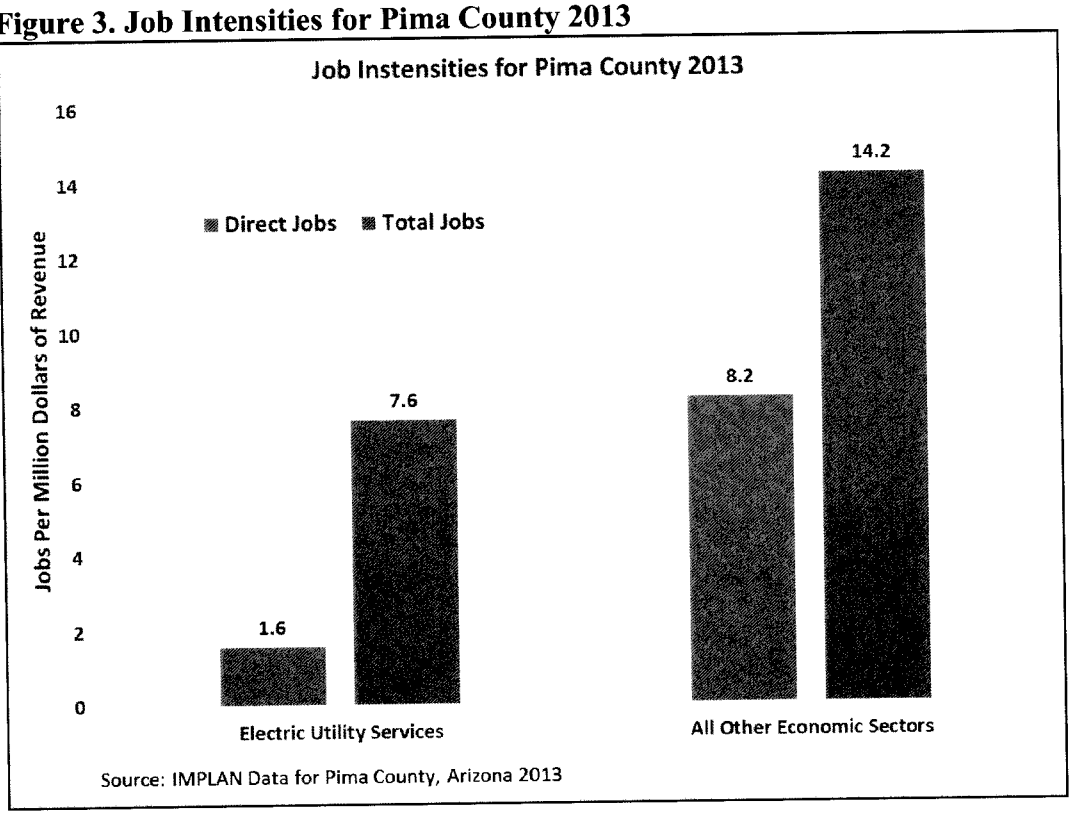
In 2012, my colleagues at the American Council for an Energy-Efficient Economy (ACEEE) and I published a study, Laitner et al., *The Long-Term Energy Efficiency Potential: What the Evidence Suggests*. In that assessment we explored the possibilities and positive impacts of greater energy efficiency investments in the United States through the year 2050. The review found the economic potential to reduce total energy use by one-half compared to reference case projections. Because electricity is a more critical and necessary energy resource, and because it can also effectively displace other demands for fossil fuels, by 2030 the cost-effective electricity efficiency improvements could shrink forecasted demand by about 20 percent. It is this trajectory that shapes the green dashed line of the "more productive future" in Figure 2. While the economics may favor this trajectory, the business and regulatory models do not. Hence, the need to review entirely new approaches that might enable and encourage UNS Electric and other Arizona utilities to generate returns based on value-added services rather than yesterday's commodity sales.

ECONOMIC IMPACTS

We can quickly explore the potential net benefits of shifting revenues away from

conventional electricity sales toward more cost-effective value-added services by examining the data shown in Figure 3. Here we use actual 2013 data for Pima County which shows that there are many more jobs created for almost all other expenditures in the economy compared to jobs associated with revenues associated with electricity generation. The reason is that electricity generation is hugely capital-intensive but not at all labor-intensive compared to other sectors of the economy. Thus, any cost-effective shifting of revenues away from conventional energy generation that also produces net energy bill savings for other sectors of the economy will likely lead to a small but positive increase in regional employment. And this trend will be amplified to the extent that the economy becomes more robust and more resilient as a result of greater energy and resource productivity improvements. While the Pima County numbers will differ from state or national level data, the relationship continues to hold within almost all regions of the U.S. economy. This is also true at the international level.

Figure 3. Job Intensities for Pima County 2013



Electric utilities, on average, supported about 1.6 direct jobs in 2013 for every million dollars of revenue in Pima County. When we include supply-chain jobs as well as jobs induced by the spending of local wages, the total rises to 7.6 total jobs per million dollars. On the other hand, all other expenditures in Pima County tend to support an average total of 14.2 jobs. In effect, if electricity costs increase by one million dollars, yes, there will be a total of 7.6 total jobs that are supported. But if those rising costs pull money away from all other sectors, 14.2 jobs may be lost. In short, rising electricity costs may actually cost a total of 6.6 jobs (14.2 less 7.6) for every million dollars in higher expenditures for electricity in Pima County. This parallel also holds for governmental revenues and local incomes.[1]

IMPLICATIONS FOR THE PENDING RATE CASES BEFORE THE COMMISSION

There is an unfortunate lack of time and resources to develop a more robust analysis than is now before the Arizona Corporation Commission. At the same time, a deeper and more complete assessment would only strengthen the conclusion that approval of this and other rate cases, in the absence of an in-depth review of the larger economic trends, is likely to continue the steady erosion of the economy as shown in Figure 1. If the Commissions wishes to support ratepayers and communities, as well as the businesses it regulates, it might adopt a more forward-looking regulatory framework and provide the signal and the incentives to encourage utilities companies to immediately implement business models that emphasize value-added services rather than commodity-based sales.

[1] I might note parenthetically the Arizona Public Service Company, which has also intervened in this proceeding, has introduced a study that it funded, and which found that distributed generation resources would weaken economic activity and cost jobs in the Arizona economy. This assessment is wholly inappropriate and misleading, and points to the exact opposite conclusion than is warranted based on more objective assessments. Such a filing only underscores the need for a broader review of pending rate cases as they will negatively impact the larger well-being of the Arizona economy.