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Equivalent of Electricity — Part 3 – FDR & The New Deal" Broadband: The 21st Century Equivalent of Electricity

By Phillip Dampier March 17, 2010

Broadband as a vehicle for social transformation.

What a concept. At the heart of the public policy debate for broadband improvement are the implications of universal broadband service in every American home. What such transformation brings to ordinary consumers, entrepreneurs, employers and employees — even the digital economy as a whole, is open for debate. At the heart of it is an argument over who is best suited to deliver that transformation – private industry or government, or perhaps both. It's an argument at the heart of various public policy debates these days, be they on health care, the environment, energy, housing, or telecommunications.

It's also a discussion Americans have had for well over 100 years.

Back in the 1880s, the topic was electrification and the debate was over who should provide it, who pays and how much, and how or if it should be regulated.

On one side were the electric companies which demanded free, unfettered access to customers with a minimum of government red tape. On the other were social engineers who saw electricity's potential to create a dramatic social transformation in America, redefining how Americans live, work, and play — if they could access dependable electricity at a reasonable price. In the middle were consumers, who wanted the service but didn't want to get stuck with a gouging bill at the end of the month.

The parallels between electricity and broadband deployment and improvement are obvious as the story unfolds. The implications go much further than you might realize, especially when one considers much of what we take for granted in our lives today came from yesterday's debate over electricity. It's why today's National Broadband Plan may bring

about social and cultural changes far more profound than worrying about who is next in line to get 100Mbps service.

The 1880s — Electricity Arrives in Big Cities

As American business moved full speed into the modern industrial era, electricity supply moved along with it. In earlier decades, most businesses located adjacent to natural resources that would power machinery — water being one common choice, coal another. Water powered mills could grind wheat into flour, and many American cities grew up next to major waterways and the businesses that relied on them. Coal could be used to generate steam-power and fire furnaces capable of making wrought iron and steel, and today's "rust belt" cities were yesterday's economic powerhouses. Gas powered lighting provided streets and homes with light long before electricity arrived, with all of the inherent dangers from open-flame-based lighting.

Electricity service was offered primarily for commercial use in the early days. That's because the costs of power generation and wiring were very expensive. Only commercial customers could pay the rates demanded by power companies for service. Electricity companies argued that given unfettered access in the market, with limited regulation and increased private investment, they could set about expanding service to residential homes. From the 1890s forward, service did expand into urban neighborhoods. Remember, this was long before the concept of "suburbs." Most Americans lived and worked within city boundaries.

Line capacity to homes during this era was much more limited than what homeowners find today. When the first well-to-do homeowners signed up for electrical service, they were looking primarily for home illumination. There were few electric-powered appliances around at the time, so demand for high capacity lines simply didn't exist for residential customers, and they were rarely offered anyway.

For reasons of price, demand and availability, the majority of revenue from electricity would come from its commercial use.

The 1910s — Great Industry Consolidation

By the advent of World War I, the days of hundreds of independently operated electricity companies were over. Industry consolidation was rampant in the decade before the Great Depression, as locally-owned companies became part of ever-growing consolidated holding companies, or trusts. Much like the consolidation of railroad lines, the results were not good news for consumers, unless they happened to own a lot of stock in those companies. Rates skyrocketed, especially for residential customers. Only businesses, threatened with higher rates, convinced electric companies they would switch to in-house power generation. That threat kept their rates stable and relatively low in comparison.

When electric customers began complaining about ever-increasing rates and limited service areas, government began to take an interest. Government authorities found great similarities between electric companies and the railroad monopolies. Industry consolidation

and too little competition brought ever increasing prices for consumers. It also reduced expansion of service into new areas, because no other providers were competing to get there first.

The 1920s — Profit Motive & Public Response

During the boom years of the 1920s, electricity service was widely available in most urban areas, but few provided much more than low capacity lines suitable for lighting and small electric appliances.

Those who believed electricity would deliver social transformation to average Americans were stymied by power companies that wouldn't deliver enough capacity to make the latest big appliances work. Blenders, mixers, toasters and other small electrical appliances could work, assuming you didn't have too many lights turned on at the same time, but washers, refrigerators and electric ovens were out of the question.

When consumers inquired about upgrading their service, they were refused by most electric companies. After all, most power company executives believed "illumination-grade" service was more than sufficient for virtually every American. In all, they consistently refused to upgrade facilities to at least four-fifths of their customers, telling them they could make do with what they had.

The electrical industry defended this position for years, and even paid for studies to defend it. A willing trade press printed numerous articles claiming the vast majority of Americans would never require higher voltage service, and it was too expensive to provide anyway. A select minority of customers, typically the super-wealthy, were the exception. In fact, marketing campaigns specifically targeted the richest neighborhoods, offering "complete service," because the industry believed it would quickly recoup that investment. That, in their minds, wasn't true for middle class and low income households. In fact, low income neighborhoods of families making between $2,000 and $3,000 were often bypassed by electric companies completely.

When asked why it was fair for companies to bypass some neighborhoods, while offering enhanced service to others, the industry said it was just a matter of good business sense.

A review of 1928 revenues for 57 electric companies led *Electrical World* to conclude that only 10 to 20 percent of utility customers were "prospects for complete electric service at indicated competitive rates."

But the magazine also found when full service was offered at reasonable prices, demand for appliances increased, along with the electrical usage to power them. Despite the potential for increased revenue, the overwhelming majority of power companies kept the same high priced, low capacity service.

After regulators finished dealing with the railroad robber barons, many turned to the electricity monopolies. Towards the end of the 1920s, power companies were primarily

expanding service only to those customers that guaranteed major profits. That largely meant commercial customers. Between 1923 and 1929, the percentage of total electricity distributed in the United States taken by manufacturers rose from 48.2 to 52.9 percent.

If you lived in an urban neighborhood, you probably had electricity, but you grumbled about the bill and the frequent brownouts from inadequate voltage. If you lived outside of the immediate area, you didn't have electricity and the prospects for obtaining it from a private company were bleak. The costs to deliver it at a rate of return that would satisfy investors was simply too high.

The Progressive Movement of the 1900s-1920s

After the reform-driven progressive movement of the early 20th century was finished taking on the railroads, they turned their attention to so-called "utility services." These were telephone, energy, and water providers.

The progressive movement of the early 1900s split into at least two camps:

Individualist Progressives — Most people in this camp belonged to Theodore Roosevelt's Progressive Party, also known as the Bull Moose Party. The Progressive party was made up mostly of disaffected centrists who left the Republican Party after Roosevelt failed to secure the 1912 Republican nomination for president. A rift had developed between Roosevelt and then-president Taft over how much energy should be devoted to breaking up corrupt big business and corrupt politicians. The Progressive Party believed the Republicans had developed an unholy alliance with big business, monopoly trusts, and corrupt politicians on the state and federal level. These individualist progressives believed in a well-regulated capitalist system, and with respect to energy companies, they demanded honoring the services and pricing promised consumers. Once those conditions were met, government should stay out of it. These progressives opposed abusive trusts and monopolies and supported competition. The Progressive Party had support in states like New York, Illinois, California, Michigan, and Pennsylvania — all states with a heavy manufacturing business base that suffered from monopoly abuses.

Reformist Progressives — Reformist progressives believed essential services should be in the hands of public trusts or municipalities, operated as non-profit "utilities" answering to the communities they served. They were major advocates for municipal utility projects, and believed it was immoral for important services to be left in the hands of for-profit businesses, much less trusts and monopolies. Many reformist progressives rallied behind the newspaper magnate William Randolph Hearst, who loudly advocated radical reform in his newspapers. Hearst even formed the Municipal Ownership League, a local party in New York City, whose primary goal was to force for-profit utilities out of the marketplace — turning services over to municipalities to run for "the public good." Reformist

progressives often applied moral values to private enterprise, suggesting an improved capitalist model required companies to also consider the social good of operating in the public interest.

Where individualist progressives had control, rate regulation and oversight was the usual model when dealing with electric companies. California and Wisconsin, fed up with the railroad abuses, saw many similarities in electric monopolies. In the end, they applied the same rate regulation philosophy used with the railways for all utility services. Both states regulated rates charged based on their perception of fair pricing. Beyond that, they tended to leave private providers alone. New York's governor Charles Evans Hughes was an individualist progressive who advocated regulatory crackdowns on monopolies who abused the terms and conditions under which they offered service. Once they met that obligation, Hughes believed the free market would manage to sort out the rest.

That was all fine and well for communities already served by electric companies, but what about vast numbers of smaller communities bypassed for electric service?

Defenders of the free market, and the companies themselves argued that only through deregulation would providers get sufficient investment to expand their service areas into previously unserved communities. Apply rate regulation and other government interference and investors will look elsewhere.

Reformist progressives disputed this assertion, believing hunger for quick profit was responsible for the disinterest in serving rural communities, where construction costs were higher and rapid return on investment was unlikely. Besides, they argued, since most of these companies provided monopoly service, it wasn't as if they faced imminent price-cutting competition.

Reformers advocated bypassed communities should form their own municipally-run electric companies or cooperatives, managed by local government and answerable to local ratepayers. This solution was attractive to many communities, especially the growing number of planned new communities that came during the boom years of the 1920s.

As municipal power attracted attention, some in the private power sector balked. Not only were these companies delivering good service to customers, they were often doing it at far lower prices. Many large utility companies and their allies made municipal power a political issue, attacking the concept as anti-American. Their argument: Public money should never be spent to construct services traditionally provided by private companies, even when those companies had yet to wire those communities for service.

Charles Evans Hughes

As political lobbying for bans on municipal power projects grew more intense, newspaper magnate William Randolph Hearst declared all-out war on the electric monopolies. Hearst advocated that electricity be a delivered only through not-for-profit municipally-run utility

companies.

Hearst even went as far to seek the governor of New York's office several times in the early 1900s, to implement his progressive reforms. Hearst's platform included advocacy of public power delivered for the social good. That meant companies would extend service to outlying areas as soon as practical instead of when it was grossly profitable. Power companies would charge a fair price for good service. Companies would also advocate for customer safety and work with government to define safety regulations instead of reflexively opposing them at every turn.

In one of several runs for office, his opponent was the aforementioned then-current governor Charles Evans Hughes, who promptly went on the attack.

Hughes had one word for Hearst's reform views: Socialism

Governor Hughes told the Republican Club of New York in 1908, "Our government is based upon the principles of individualism and not upon those of socialism…. It was founded to attain the aims of liberty, of liberty under law, but wherein each individual for the development and the exercise of his individual powers might have the freest [*sic*] opportunity consistent with the equal rights of others."

Hearst lost the governor's race each time he ran, and was outmaneuvered by the private industries he sought to reform. In fact, the industry managed to outwit regulatory advocates at every turn.

For example, since states were permitted only to regulate commerce within its borders, giant national electricity holding companies, also known as "trusts," typically escaped such regulation by opening headquarters out of state, which allowed them to ignore local and state regulations. In Riverside, California, Southern Sierras Power Company was able to ignore California state regulations because its head offices were in Denver, Colorado. That kept pesky state officials out of Sierras' books to verify whether the rates it charged were fair.

When regulators sought to construct a formula for fair regulated pricing, creative bookkeeping and debt structuring made even confiscatory rates permissible. Companies learned to use business regulations against the regulators. For instance, when a regulator believed rates could be lowered, power companies increased their debt obligations, at least on paper. They paid outrageous administrative fees to the holding companies they themselves often quietly controlled. Or they used creative accounting tricks to make it appear free cash was obligated to satisfy investors who held company debt and had to be repaid under government rules within a limited time frame. Companies were able to "prove" to regulators their current rates were fair, and there was no leeway to reduce them.

Only after municipal power companies began providing service at dramatically lower, and sustainable prices did suspicion reach a fever pitch that regulators were being played.

Franklin Delano Roosevelt

Watching the debate raging through the 1920s was one Franklin Delano Roosevelt, who was elected governor of New York in 1928 on a reformist agenda. Like many other states, New Yorkers had a problem with their electric companies. They charged too much, didn't provide sufficient capacity, and ignored rural areas.

Roosevelt started his political life following in the philosophical (and political) footsteps of his fifth cousin Theodore, the 26th president of the United States. FDR believed in individualist progressive ideals — improving privately held utilities but steering clear of advocating public ownership.

Roosevelt's immediate predecessor, Al Smith, spent the 1920s in Albany arguing with the Republican state legislature over who would develop New York's hydro power resources, which could deliver substantially lower-priced electricity from Buffalo to Long Island. The legislature wanted the state's private power companies to develop the resource, with a public service commission reviewing and, where necessary, regulating rates. Smith wanted the state to build the plants as public utilities, arguing endless lawsuits by private power companies had made rate regulation meaningless.

Early into his term as governor, Roosevelt picked up where Smith left off, advocating first for the construction of a hydroelectric dam on the St. Lawrence River in upstate New York. The legislature promptly said no. Roosevelt refused to let go and expanded his proposal to also include the possibility of municipally-owned local power companies, delivering needed power without a profit incentive.

In upstate and western New York, firmly Republican territory, local newspapers blasted Roosevelt's proposal, occasionally calling him a socialist conniver, an enemy of free enterprise, and dragging big state government into the lives of ordinary citizens.

Electric companies across the state joined the chorus of upstate opposition, but also quietly made preparations to counter Roosevelt's proposal, just in case it began to catch on.

Roosevelt's initial efforts to argue his position did not make much headway upstate, because he had to rely on newspapers to deliver his message — the same newspapers that rebutted him at every turn. Direct mailing letters to voters was expensive and took a long time to create and distribute. Roosevelt instead turned to the new medium of radio, speaking to residents statewide about issues like electrification. Radio directly reached listeners and bypassed the newspaper filter, and it allowed the governor to deliver a populist message in terms every consumer could understand — high rates.

Roosevelt lit a fire for reform when he compared what state residents were paying for electricity compared to those on the other side of Lake Ontario, in Canada. Canada had provincial power, owned and operated by the government.

Roosevelt told listeners that in a "modernized house" (one served by higher voltage lines

capable of supporting large electric appliances), residents of Ontario paid just $3.40 a month in electric bills. But in Westchester County, the same service cost $25.63. It was $19.95 in New York City and $13.50 in Rochester.

Double-crossing Roosevelt With the Help of 'The House of Morgan'

The electric companies soon saw the results of those price comparisons as voters demanded better prices. Republicans began shifting toward Roosevelt's plan. For the power companies, it was time for "Plan B." Quietly meeting with J.P. Morgan Bank in the summer of 1929, three major upstate New York power companies planned to merge into one giant company: Mohawk Hudson Power Corporation.

The modern day Mohawk Hudson Power Company was Niagara-Mohawk, which has since been purchased by National Grid.

Mohawk Hudson Power Corporation incorporated:

Buffalo, Niagara & Eastern Power Corp.: Served 500 cities and towns including Buffalo. Niagara Falls supplied most of its power;

Northeastern Power Corp.: Served communities along Lake Ontario and the St. Lawrence;

Mohawk Hudson Power Corp.: Served Albany, Schenectady, Utica, Syracuse, and many other communities.

With such a merger, Roosevelt's original plan to let upstate power companies compete to offer the best possible rates for hydro power were dashed. In fact, the power companies loved Roosevelt's plan because as a combined entity, they'd profit handsomely from state taxpayers paying to construct hydro generating stations, saving them the trouble. Then as a monopoly cartel, they'd set rates artificially high, pocketing the proceeds. J.P. Morgan Bank would also get paid handsomely for helping make it all possible.

To add insult to injury, just two months later, Mohawk Hudson acquired another state giant — Frontier Power Corporation, which in the words of *Time* magazine, "set Roosevelt agog."

Governor Franklin D. Roosevelt of New York (Democrat) declared that the fact that 80% of New York State is now served by one hydro-electric corporation made it necessary for him once again to urge the Legislature (Republican) to create a body of public trustees to develop St. Lawrence water power for the people.

Roosevelt's experience with the House of Morgan and the power utility trusts would be a lesson he would never forgive or forget. In fact, it culminated in his broadened vision to consider power an integral part of economic redevelopment after the start of the Great Depression later that year.

Roosevelt's New Deal

Americans only came to terms with the impact of the Great Depression in 1930, months after the stock market crashed. What initially hurt Wall Street soon spread across the country in waves of bank failures, massive unemployment, a credit crunch, and rampant homelessness, poverty, and despair. What was bad in the city could be much worse in rural America.

Services for rural Americans were few and far between, and electric power was absolutely not one of them. The economic benefits of the boom years usually never made it to rural communities in the first place. Banks did manage to turn an excellent business convincing rural farmers to mortgage their farms in return for ready cash to acquire farm equipment, pay transportation costs to bring crops to market, and obtain other necessities. When the bust years arrived, more than a few farmers found themselves foreclosed and evicted from their own farms, seized by lenders to recoup their loans.

After witnessing thousands of farmers and other rural Americans displaced from their homes, Roosevelt embarked on wide-ranging reforms for rural America. One of the most important was rural electrification, designed to guarantee electricity to any rural American that wanted it. Through the New Deal, rural Americans would experience the benefits of modernization first-hand — bolstering farm production and development, increasing economic development, improving health and safety, and most importantly, make rural living economically self-sustainable.

After learning from his years as governor of New York, Roosevelt established some core principles for his rural-focused New Deal electrification program:

Full electrical modernization of households defined the standard for quality of life, no matter where the households resided.

Electrical modernization of farm productive processes, within the framework of planned production and marketing, would lower farm costs and return farms to prosperity.

Electricity must be affordable to all households in quantities required for electrical modernization. Publicly owned and private utilities, lightened of their false capitalization by public regulation and the breakup of holding companies, would provide inexpensive electricity.

Cheap electricity would make the redistribution of population and industry possible, because it could be transmitted long distances and sold at near cost to rural consumers.

President Roosevelt speaks to residents in Tupelo, Mississippi, the first city to benefit from the Tennessee Valley Authority

The mostly rural and poor Tennessee Valley region, covering 80,000 square miles in the southeastern United States, including almost all of Tennessee and parts of Mississippi, Kentucky, Alabama, Georgia, North Carolina, and Virginia was an obvious first choice for

rural electrification. Tupelo, Mississippi was the first community to sign onto Roosevelt's ambitious Tennessee Valley Authority plan to bring cheap power to a deprived region.

The results of electrification at reasonable prices were… electric. Widespread poverty wasn't solved overnight, but evidence of social transformation was at hand. Americans from coast to coast were modernizing their homes, bringing in new electric appliances which fueled pre-war manufacturing, retail sales, and helped bring down unemployment. Many businesses were thrilled to participate in New Deal programs, which included stimulus spending to help Americans improve their homes.

The impact of New Deal programs for electricity development exist in every American home. The refrigerator replaced an ice-block powered icebox. Hand scrubbed laundry in a sink now agitated in a washing machine. The radio was made commonplace where electricity to power it was available. Mixers, blenders, toasters, and other small appliances made their entrance with the advent of widespread electric power. But the impacts go even further. *Technology as Freedom*, by Ronald Tobey, notes:

The New Deal in domestic electrical modernization worked an invisible revolution. The New Deal shifted the majority of American families to an asset strategy for economic security through state-enframed home ownership of electrically modern dwellings. Geographic mobility declined. Unrestrained domination of local politics by a locally resident real estate elite ended. Material accumulation based in the owner-occupied home created unprecedented material affluence. The dwellings modernized their occupants, as households rebuilt their social and labor relations around new technologies. Minority groups previously locked out of affluence gained the keys to their future. The New Deal created the 1950s.

Is ubiquitous broadband the electrification challenge of our age? Naysayers claim fast broadband is only useful for downloading entertainment products, often illegally. They suggest economic development doesn't require fast broadband — any version of broadband is good enough. Worse yet, government involvement in it is suspect, according to these critics.

But after weeks of witnessing countless communities compete for Google's *Think Big With a Gig* broadband project, it's clear the clamor for affordable, fast broadband service is far more important than the naysayers would suggest.