

Stumbling in the Dark: How America Fumbled its Energy Future

Martin Koch

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Throughout recent history, American energy policy has been a misguided “clusterfrack” biased toward fossil fuel interests and dismissive of long-term security. Rather than creating a proactive, sustainable plan for fueling its economy, the U.S. has largely charted its energy course by bouncing reactively from boom to bust. As renewable energy finally gains prominence today, America must overcome nearly a century of energy missteps in order to power a new generation of prosperity.

From the beginning of the last century, misguided policy subsidized an inefficient transportation system that locked America into an addiction to cheap crude. In the early years of modern transportation, electric streetcar lines flourished in communities large and small. However, challenges such as the advent of automobile transportation soon collided (often literally, in the case of drivers wrecking trolley cars while attempting to beat them to the next stoplight) with America’s public streetcar infrastructure. Mismanagement and consolidation in the streetcar industry led to declining revenue, even as ridership soared to record levels.¹ During the 1920s, technological advances, such as rubber-wheeled “trackless” electric trolleys, were introduced.² These refinements had the potential to make such streetcar systems more competitive, but were not taken advantage of by shortsighted companies. Investment in streetcar infrastructure plummeted by half over the course of the ‘20s.³ This decline of streetcar systems presented an energy policy challenge: electricity for running trolleys could be produced by any number of means, from coal to wind, but cars were dependent upon oil, a resource that was recognized to be finite as early as the 1920s.⁴

However, when faced with the decay of successful, sustainable public transportation systems, public officials did little to preserve this valuable infrastructure for future generations. As the

¹ Nye, David E. *Consuming Power: A Social History of American Energies*. (Cambridge, The MIT Press, 1998), 134.

² *Ibid.*, 136.

³ *Ibid.*, 135.

⁴ Joseph Pratt. “The Ascent of Oil: The Transition from Coal to Oil in Early Twentieth-Century America” in Lewis Perelman, August Giebelhaus, and Michael Yokell eds. *Energy Transitions, Long-Term Perspectives*. Boulder: Westview Press, 1981. 21

Depression pushed streetcar companies into bankruptcy, and growing auto traffic clogged urban streets, city planning experts continued to assume that streetcars would remain the dominant form of transportation. The laissez-faire economic theories dominant at the time made municipal rescues of failing transit companies politically taboo.⁵ By 1940, few interurban rail systems remained in use in the United States, and the oil-powered automobile ruled the road. Today, interest in urban rail has reemerged with a vengeance, even in the Sunbelt. However, if prewar streetcar infrastructure had been protected by a farsighted energy policy, much less cost and effort would be required to restore this valuable public asset.

The lack of a sound U.S. energy policy is also evident in the construction of the road system that replaced urban mass transit. In response to the growing popularity of private automobiles, the first Federal-Aid Highway Act was enacted in 1916, with the stated aim of “aid(ing)...in the construction of rural post roads, and for other purposes.”⁶ Successive Highway Acts institutionalized a transportation funding structure that was inadequate for keeping America’s cities moving. Seventy-five cents of every federal highway dollar went to rural roads, and ordinary urban streets – left without rail service in the absence of a policy to support interurban lines - were completely ineligible for federal road improvement aid.⁷ By the 1950s, intracity street systems languished and, in the words of a Yale University report, “had become totally inadequate.”⁸ As quick interurban rides turned into long stints behind the wheel in traffic jams, urban Americans with the means to do so reacted by becoming suburban Americans. Between 1930 and 1963, the density of urban settlement fell by over half.⁹ An ever-growing network of highways facilitated the energy-intensive suburban commuting lifestyle, and carved a path of destruction through many historic neighborhoods.

⁵ Nye, 134.

⁶ Owen D. Gutfreund. *20th -Century Sprawl, Highways and the Reshaping of the American Landscape*. Oxford: Oxford University Press, 2004, 21.

⁷ Gutfreund, 47.

⁸ Gutfreund, 48.

⁹ David Nye. *Consuming Power, A Social History of American Energies*. Cambridge: The MIT Press, 1998. 194.

As sprawling suburbs were etched into the American landscape with the help of gasoline, Freon, and DDT, the consumption of oil skyrocketed. Our nation was increasingly becoming dependent on an unsustainable supply of cheap crude, but the response from policymakers amounted to little more than pouring gas onto the fire. This trend began in the early years of the development of oil, when domestic oil production was a Wild West frenzy devoid of sound policy or even good sense. Drilling rights were allocated according to the “rule of capture,” under which the only limit on a particular driller’s production of oil was the speed at which it could be pulled from the ground.¹⁰ Wasteful practices caused many early oil fields to be depleted of pressure before their contents could be fully extracted. In this era of energy abundance, describes historian Joseph A. Pratt, “the relative prices of oil and coal were the primary determinant of the choice of fuel for consumers, and the sum of these choices added up to a national ‘energy policy.’”¹¹ Economist John Ise surveyed wasteful oil development in 1926 and concluded that: “We will...in a time of national peril, look back regretfully at the wanton waste of oil in these days of plenty...and will squander vast sums of money in bootless efforts to secure satisfactory substitutes for material which we have wasted.”¹²

Production quota policies would not be established until the early 1930s, when a glut of oil from new East Texas fields pushed sale prices so far below production costs that several pipelines were dynamited in order to staunch the flood of “hot oil” and red ink.¹³ However, a new policy misstep also emerged from this era. In order to support independent domestic oil companies, a tariff was placed on imported fuel oil and gasoline. Following World War II, government leaders came to understand the “conservation theory”: the idea that domestic petroleum reserves were dwindling, and that using imported oil to meet current demand could conserve oil deposits under American soil for use in the

¹⁰ Daniel Yergin. *The Prize: The Epic Quest for Oil, Money, and Power*. New York: Free Press, 1992. 221.

¹¹ Pratt, 18.

¹² Pratt, 28.

¹³ Yergin., 250.

event of a crisis.¹⁴ However, the interest of national security continually took a backseat to the interests of independent domestic oil companies. In the mid-1960s, Sen. Russell Long of Louisiana explained to international oil executives that “Congressmen from the oil states ‘are especially interested in the domestic phases of the industry, because that is the part that gives employment to our people and means revenue to the state governments.’”¹⁵ Pressure from the domestic oil lobby led to the continuation of mandatory restrictions on oil imports, and stifled President Eisenhower’s effort to establish a strategic petroleum reserve in the late 1950s.¹⁶

Less than a decade after Senator Long’s address, however, imported oil would become the lifeblood of the American economy. Those who had once pushed to limit imports in favor of drawing down American reserves would only watch helplessly as domestic wells finally ran dry. Oil production from the continental U.S. peaked in April 1970, as soaring demand led to skyrocketing prices amid crippling shortages.¹⁷ President Nixon’s first response was to double down on the misguided measures that had become characteristic of the American government’s approach to energy. Price controls were established, which spurred wasteful demand by keeping the price of oil artificially low. Additionally, all restrictions on imported oil were dropped.¹⁸ As the market share of imported oil climbed, the American economy continued to suffer from oil shortages and inflation.

However, by the early 1980s, increased production and lower prices transformed the oil marketplace. Oil imports shrunk by half from 1977 to 1982, and the economy began to recover.¹⁹ Yet, energy policy played a relatively scant role. Much of the improvement can be attributed to the discovery of new “elephant” fields in Alaska, the North Sea, and the Gulf of Mexico; the process of

¹⁴ Ibid., 395.

¹⁵ Ibid., 540.

¹⁶ Ibid., 537.

¹⁷ Jay Hakes. *A Declaration of Energy Independence, How Freedom from Foreign Oil Can Improve National Security, Our Economy, and the Environment*. Hoboken: John Wiley and Sons, Inc., 2008. 17.

¹⁸ Ibid., 21.

¹⁹ Ibid., 68.

developing these fields began long before the Carter and Reagan energy initiatives took effect.²⁰ Some federal initiatives, such as reducing the use of oil for comfort heating and subsidizing insulation installation, were effective at reducing demand for foreign oil.²¹ However, in the decades to come, low oil prices and the SUV boom (aiding by policy flaws that exempted light trucks from fuel efficiency regulations) would accelerate America toward increased dependence on foreign oil.

As the twenty-first century dawns, instability in the Middle East, a growing awareness of global climate change, and rising global demand for oil make it clear that the U.S. must break its addiction to petroleum and other fossil fuels. However, the misguided policy of the twentieth century has left us with limited sources of alternative sources of energy to turn to. A perfect case study is the story of solar energy: an energy source with a bright future hampered by decidedly-less-bright policies. As early as the 1940s, solar water heaters were competitive with those fueled by oil, coal, or gas when lifetime energy costs were taken into account.²² However, in the face of market incentives during the mass-produced housing boom of the 1950s, these sustainable products fell from favor. During this era, utilities, appliance manufacturers, and homebuilders colluded to push inefficient appliances that were cheap to buy and install, but left customers stuck with a hefty hidden cost from high electricity use.²³ Not until after the 1979 energy crisis would regulators finally “decouple” utility profits from the raw amount of electricity sold.²⁴

While demand-side energy policies were misguided enough, solar policy at the supply-side level wasn't much of an improvement. The 1970s energy crises seemed to provide a boost for solar energy; in 1974, the federal government established the Solar Energy Research Institute, and President Carter

²⁰ Ibid., 69.

²¹ Ibid., 69.

²² Alexis Madrigal. *Powering the Dream, The History and Promise of Green Technology*. New York: Da Capo Press, 2011. 87.

²³ Madrigal, 89.

²⁴ Ibid., 102.

added a solar heating system to the White house in a show of support for the burgeoning technology. However, once President Reagan took office, solar energy researchers saw their budgets slashed by sixty percent and their research efforts suppressed.²⁵ The private solar industry fared little better. In the late 1980s, solar thermal pioneer Luz forecast, that, by 1994, it could construct a solar plant competitive with a natural gas-fired plant of equivalent capacity.²⁶ However, the large area of land required for its solar installation meant that Luz's venture would be charged four times the property tax of a comparable gas plant. Luz had expected to receive a tax break to bring its costs in line with its competitors, but this tax incentive was rejected by one California governor and delayed by a second, pushing Luz into bankruptcy.²⁷ The plants that Luz completed before its bankruptcy operate profitably, provide training for many solar thermal engineers, and have provided reliable electricity to Californians for over twenty-five years.²⁸ Yet, shortsighted policy prevented this success from being replicated on a larger scale.

When President Carter mounted solar panels on the White House in 1979, he proclaimed, "A generation from now, this solar heater can either be a curiosity, a museum piece, an example of the road not taken, or it can be just a small part of one of the greatest and most exciting adventures ever undertaken by the American people: harnessing the power of the Sun to enrich our lives as we move away from crippling dependence on foreign oil."²⁹ The panels were removed by President Reagan in 1986, and now languish in storage rooms and museums. In 2010, one panel was put on display in the Solar Science and Technology Museum – in Dezhou, China. This is a fitting end; while modern solar water heaters were developed in the U.S., China manufactures eighty percent of solar water heaters used in the world today.³⁰

²⁵ Ibid., 114.

²⁶ Ibid., 131.

²⁷ Ibid., 135.

²⁸ Madrigal., 135.

²⁹ Yergin, 61.

³⁰ David Biello. "Where Did the Carter White House's Solar Panels Go?" *Scientific American*. 6 Aug. 2010. Web.

For decades, the United States has failed to develop and implement a coherent energy policy. For generations, proactive planning for long-term security and sustainability took a backseat to reactive responses and short-term profit motives. In order to move toward a sustainable future, policymakers must stop “stumbling in the dark” and create an energy policy for the twenty-first century that is more enlightened than that of the twentieth.