Introduction

From a renewable energy policy point of view, few countries are more interesting than the United States – for better and for worse. In the US, renewable energy policy has swung more violently than in most other countries. There have been booms, busts, and protracted periods of unpredictability. In addition, the federal structure of the country leaves much of the policymaking to the states, where there are major differences in policy and in renewable energy targets. But maybe first and foremost, the US has suffered from minimalist and uncoordinated policies, punctuated by what Sovacool (2009b) describes as haphazard and inconsistent government policy, and Ernst and Young (2014b) as the crippling effects of Congressional gridlock and partisan politics.

However, let us start with the good news. The US is second behind China only on wind power capacity (66GW as of 2014). In 2012, the US installed more wind power capacity than any other country (13GW), and the high technological sophistication and low curtailment rates of its wind power means that each year US wind generates considerably more electricity than China, despite the lower installed capacity. In solar PV, at approximately 20 GW the US is significantly behind Germany, but it has one of the largest PV markets in the world, which is likely to grow rather than shrink. If we look beyond wind and solar capacity, to electricity generation (which is what actually matters), no country generates more non-hydro renewable electricity than the US. And, despite its refusal to sign the Kyoto Protocol and widespread Republican reluctance to recognize the existence of human-induced global warming,
Ernst and Young (2013d, 2014a) routinely refers to the US as one of the world’s two most attractive countries for renewable energy investments (with China) (EIA, 2014a). At the same time, as of 2013, solar and wind accounted for no more than 4.5 percent of US electricity generation (13 percent including hydropower) (EIA, 2014a). This is far behind frontrunners such as Denmark and Germany.

As a superpower, energy security is higher on the US political agenda than in most other countries. With 5 percent of the world’s population, the US consumes roughly 25 percent of global energy. Soon after World War II the US had to start importing petroleum, first from Venezuela, and then ever more from the Middle East. Today, US oil supplies are quite diversified, but combining the fact that it still depends on imports to satisfy its energy needs (even if shale gas may currently change this) and the fortunate circumstance that the US is actually quite abundant in a number of renewable energy resources, this ought to make for a political landscape in which renewable energy would be viewed favorably, as an important way of reducing energy dependence. (The US is, however, also the second largest coal producer in world, and at somewhere around 270 billion tons it hosts 25 percent of the world’s recoverable reserves (Goodell, 2007). Thus, energy independence has been a topic of most American presidents since Richard Nixon.

When the 1970s oil crises struck, there was strong political support for renewables in the US. Energy policy was President Carter’s first major policy initiative. Carter expected renewable energy to account for 10 percent of electricity capacity already by 1985. This proved as wildly unrealistic as forecasts by contemporary experts that by 2000, 40 percent of the global energy budget would come from renewables and that by 2025 75 percent of man’s energy needs would be covered by solar energy. Technological breakthroughs were taken for granted, experts and policymakers vastly underestimating the time it would take for these breakthroughs to lead to an energy transformation. Thus, ironically, one of the reasons why the US did not follow the path of Denmark to become one of the frontrunners in renewable energy was that the belief in renewables in the US at that stage was so inflated. The consequent lack of progress led to disappointment and disenchantment with renewables (Sovacool, 2009b).

What followed was a falling out of love with renewables in conjunction with oil and coal prices dropping and resistance from the electric utilities. When President Carter’s reforms expired in 1986, President Ronald Reagan dialed the renewable clock back, explicitly favoring fossil fuels, and in an act of anti-renewable symbolism, removing the solar panels