PUNCTUATIONS, INSTITUTIONS, AND THE DIVERSITY OF NUCLEAR POWER POLICIES IN EUROPE

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Overview

Energy-related shocks—nuclear plant disasters, energy price gyrations—have impacted the nuclear power policies of nations globally. But these shocks have not impacted nuclear policy in the same way across even neighboring borders. This paper explores the question of why nuclear power policies have been so diverse and what this means for the future of nuclear power, which many experts believe will be a necessary component in policies concerning the decarbonization electric power generation.

Methods

The paper uses a theory from policy studies, Punctuated Equilibrium Theory (PET), to show how shocks can move policy more radically than would be possible otherwise (Baumgartner 2005; Baumgartner and Jones 2009). According to this theory, a shock may (but will not necessarily) cause an issue to jump to the top of the policy agenda. What happens from there depends on the feedback from the larger policy system including public opinion, immediate national political interests (elections), and so on. This paper will use as data public opinion polls with respect to nuclear power before, during and after three shocks: the Arab OPEC oil embargo and resultant enormous increase in oil prices in 1973-4; the Three Mile Island (TMI) nuclear power plant core meltdown in the US in 1979; and the Chernobyl disaster of 1986. It then examines how nuclear policies in three countries—Sweden, France and West Germany—did or did not change consequently (Kitschelt 1986; Renn 1990; Koopmans and Duyvendak 1995).

Results

The oil embargo/price shock constituted an event that impacted policies in all three countries, but its impact was especially strong with respect to French nuclear policy (Hatch 1986). France embarked on a major program for nuclear-generated electricity, describerd by the slogan "No oil, no gas, no coal, no choice." TMI had little impact on French or German nuclear power policies, but led to a major shift in the nuclear policy of Sweden (Nohrstedt 2005). Chernobyl reinforced the direction of Swedish policy but had a more profound impact on Germany. It caused a nearly complete reversal of public opinion in Germany about nuclear power and was the catalyst for the policy of ending the German nuclear program (Grossman 2015). At the same time, French pro-nuclear energy policies remained intact (Chaussade 1990).

To explain the differences I look to historical and comparative institutional analysis (HCIA), and briefly analyze the differences in political systems, cultural norms, and historical contexts of each of these these countries (North 1990; Greif 1998). So for example, the French government with a strong central presidential authority seems much less vulnerable to temporary shifts in public opinion than the federated (West) German system in which issues may be kept alive in the states (länder), especially by small fringe parties in state parliaments, or through NGO activity (Krohn and Weingart 1987). The more egalitarian (and more homogeneous) Swedish society tended to oppose the kind of hierarchical nuclear power industry in which certain acceptance of dangers were left to the opinions of "experts" rather than the will of the people. After TMI, Sweden held a referendum that led to the planned phase out of nuclear power (Norhstedt 2005).

Conclusions

Policy theory can give us important insights into why public policy might change in the event of a perturbation that shakes up perceptions and allows acceptance of what had previously been an idea held by a small minority. But one must dig deeper into a nation's history and culture to understand why there are often very different reactions to the same shock. Thus, we can think of PET as a useful but incomeplete theory of policy change especially when applied to a complex energy technologies such as nuclear power.

The paper concludes with a discussion about the future of nuclear power in Europe, and considers how policy models can provide insight into what it would take for a reversal of the anti-nuclear slant of current European nuclear policies. I discuss the impact of "positive" technological shocks and how (or whether) they might propagate.

References

Baumgartner, F.R. 2006. "Punctuated equilibrium theory and environmental policy." In: , R.C. Repetto (ed.), *Punctuated Equilibrium and the Dynamics of U.S. Environmental Policy*. Yale University Press, New Haven, CT, 24–46.

Baumgartner, F. R. and Jones, B. D. (2009). *Agendas and Instability in American Politics* 2nd Edition. Chicago, IL:University of Chicago Press.

Chaussade, J-P. (1990). "Public confidence and nuclear energy." *IAEA Bulletin*, 2, 7-9.

Grossman, P.Z. (2015). "Energy shocks, crises and the policy process: A review of theory and application." *Energy Policy*, 77, 56-69.

Greif, A. (1988). "Historical and comparative institutional analysis." *American Economic Review*, 88 (2): 80-84.

Hatch, M.T. (1986) *Politics and Nuclear Power: Energy Policy in Western Europe.*The University of Kentucky Press, Lexington, KY.

Kitschelt, H.P. (1986). "Political opportunity structures and political protest: Anti-nuclear movements in four democracies." *British Journal of Political Science*, 16 (10: 57-85.

Koopmans, R. and Duyvendak, J.W. (1995) "The political construction of the nuclear energy issue and its impact on the mobilization of anti-nuclear movements in Western Europe." *Social Problems*, 42 (2): 235-251.

Krohn,W. and Weingart,P. (1987). "Commentary: nuclear power as a socialexperiment— European political'fall out' from the Chernobyl meltdown." *Science Technology and Human Values* 12,52–58.

Norstedt, D. (2005) "External shocks and policy change: Three Mile Island and Swedish nuclear energy policy." *Journal of European Public Policy*, 12 (6): 1041-1059.

North, D.C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press, Cambridge.

Renn, O. (1990). "Public responses to the Chernobyl accident." *Journal of Environmental Psychology* 10 (2): 151-167.