Routledge
Taylor & Francis Group

Ecological modernisation, American style

David Schlosberg* and Sara Rinfret

Department of Politics and International Affairs, Northern Arizona University, USA

The United States lags behind European countries in adopting ecological modernisation policies and practices. Ecological modernisation (EM), as it has been developed in the EU, emphasises industrial efficiency and technological development in order to move beyond the perceived conflict between economic development and environmental quality. Despite early attempts by individuals and groups to promote such ideas in the United States, both governments and industry remained threatened by its discourse while it spread in Europe. More recently, however, the US appears more open to its own form of ecological modernisation, with some unique additions to the discourse. This paper examines this growing and increasingly popular US version of ecological modernisation, which incorporates two concepts generally absent from earlier European conceptions of EM – national security and blatant consumerism. We then turn to the limitations of such a discourse, and conclude with suggestions for how the framing of EM in the US could be broadened and strengthened.

Introduction

The discourse of ecological modernisation (EM) lays out one, increasingly popular, way to articulate how the state can respond to ecological dilemmas like pollution or global climate change. The core assumption of EM is that environmental degradation can be addressed through foresight, planning, and economic regulation; in particular, new technologies can be developed and utilised to enhance economic growth while simultaneously curtailing waste (Hajer 1996). Environmental regulation is used as a driving force for innovation in the market, and as a way to incentivise behavioural change in the industrial sector.

Starting in Western Europe, and increasingly spreading to both industrialised and developing nations, EM is becoming the dominant discourse and

*Corresponding author. Email: david.schlosberg@nau.edu

model of environmental policy and practice. In the European context, EM is framed under three reoccurring and related discourses – efficiency, reliance on new technology, and an overall win–win scenario for capital and the environment. The discourse and practices of EM illustrate the shift from the first generation of state-based environmental policy approaches – the post-production environmental regulatory apparatus developed in the United States in the 1970s – to an approach focused on rethinking the design of the economic realm so as to create less environmental damage in the first place.

In the US, of course, the original model of environmental regulation has been under constant attack and fallen out of favour for many across the political spectrum. Yet the US has been the one of the last major industrialised nations to find favour with the shift to an ecological modernisation framework. In fact, the phrase 'ecological modernisation' is found nowhere outside of the academic sphere in this country. Numerous investigations and critics (most famously Shellenberger and Nordhaus 2004) have attempted to explain why the United States, a leader in environmental regulations during the 1970s, has not embraced or implemented EM discourses in the 1990s.[1] However, it appears that ecological modernisation, in a revised form, is beginning to find favour in the US – both culturally and politically. While many similarities exist with the EM popular in Europe, the purpose of this paper is to uncover the unique themes in this American form of the EM discourse, explain their appearance, and explore some of their limitations. The central claim is that the addition of the themes of security and consumerism has made the broader discourse of ecological modernisation more palatable and popular in the US context.

This examination begins first with a brief overview of the European EM discourses and explores how some standard elements of the ecological modernisation discourse have finally been adopted in the United States. We then explore the addition of security and consumerist elements to the American EM dialogue. Ultimately, the form of ecological modernisation being adopted in the US remains quite weak, due to the emphasis on technology and green consumerism rather than precaution, reflexivity, and consumption levels. However, the use of both security and consumer discourses could help turn the page toward a stronger form of ecological modernisation in the United States.

Ecological modernisation in the European context

Ecological modernisation is often traced back to the work of German academics Joseph Huber and Martin Jänicke, and has been analysed, promoted, and popularised over the last two decades by sociologists Arthur Mol, David Sonnenfeld (2000) and Gert Spaargaren (2002), as well as environmental political theorists such as Peter Christoff (1996), Marten Hajer (1995), and John Barry (2003). As Mol (2001) argues, ecological modernisation focuses on the role of using technological advancement to bring about

better environmental performance. Efficiency is key, and environmental modernisation is seen as a positive-sum game – improving the environmental bottom line improves the economic bottom line. A long-standing motto of EM is that 'pollution prevention pays'. Ultimately, the shift is from the regulatory apparatus of the 1970s, based on reacting to and cleaning up after business, to a more anticipatory apparatus that focuses on anticipating and preventing these later environmental costs.

Dryzek (2004) notes that the states that come out ahead in various studies of environmental quality and improvement, and the states which first adopted elements of EM, are those with more cooperative and corporatist political/ economic systems. One of the key features of European EM is cooperation among government, business, and environmental groups.[2]

Kamienicki (2006, p. 35) concurs, arguing that ecological modernisation 'is achieved not through adversarial process, but by bringing government and business together within a cooperative framework'. Such a structure has simply not existed in the US, where the adversarial culture and institutional pathologies of US policy-making encourage competition and conflict over cooperation and intelligent policy design. Simply put, corporate power and interests dominate policy-making on issues such as energy and the corporatist approach in the EU illustrates that one of the most important things about the EM discourse is what it does *not* require; the central idea is that major changes can be made in the economic structure and ends of an industrialised nation without resorting to calls for an altogether different political-economic system (Dryzek 2004, p. 167). As Hajer (1995, p. 25) clearly points out,

> In the most general terms ecological modernization can be defined as the discourse that recognizes the structural character of the environmental problematique but none the less assumes that existing political, economic, and social institutions can internalize the care for the environment.

So the original ecological modernisation discourse emphasizes more efficient production, less waste, lower costs from anticipating and preventing pollution rather than cleaning up later, profits to be made in selling green goods and technologies – and all with cooperation and little or no economic or political upheaval.

Given the benefits – efficiency, technology, a win–win scenario on environment and the economy, and low political costs – it is not surprising that a number of advanced industrialised nations began to adopt models of ecological modernisation in the 1980s and 1990s.[3] Many European countries have literally capitalised on the idea of managing environmental policy through the linkage of environmental and economic decision-making. Even the initial laggards in Europe have come around. Weale (1992) long ago laid out why the UK was so far behind European neighbours in the development of EM policies based on EM principles. But more recently, former UK Prime Minister Tony Blair used the language of ecological modernisation to encourage technological

advancement that would increase economic stability to protect ecological resources (Barry 2003).[4] This focus has not only been emphasised by Blair's successor Gordon Brown, but has also been picked up by the opposition Conservatives, and their leader David Cameron, leading to arguments over which party is indeed more green – an event American environmental activists can only sit back and watch in amazement.

Ecological modernisation certainly has its critics. While advocates note the positive nature of economic efficiency and pollution prevention, and the important shift from post-hoc cleanup to precaution, authors such as Christoff (1996) and Blowers (1997) point out the lack of strong critiques of modernisation, the limits on public participation, and the overall 'weak' nature, to use Christoff's terminology, of the dominant paradigm of EM. Barry (Barry and Doran 2006) notes the complete absence of any discussion of the nature and impact of consumption in the celebration of EM. These authors lament the limits of EM as it is currently promoted and practiced, and call for a more reflexive and democratic strain of the practice. We are sympathetic to these critiques and the related suggestions, and will return to them, but the point here is to examine why the US has been so slow to take up even a weak version of EM – and how when it finally has, the discourse has shifted in a uniquely American way.

A recent history of ecological modernisation in the US

As many European countries began to take advantage of EM discourse to create a framework for policy and reformed business practices, linking environmental and economic goals, the obvious question became why the US remained such an obstinate laggard. According to Dryzek *et al.* (2002, p. 667), 'Ecological modernisation is resisted in the USA, where policy discourse features an old-fashioned stand off between economy and environment'. The first President Bush, on his way to the Rio Summit in 1992, dismissed much of the policy being developed at the conference as a threat to the American economy, and exclaimed that 'we cannot shut down the lives of thousands of Americans by going to extremes' on environmental policy (Wines 1992). The second President Bush used the same logic (though more tortured prose) in pulling the US out of the Kyoto Accord in 2001: 'We will not do anything that harms our economy, because first things first are the people who live in America' (Andrews 2001, p. 3). The Cheney-led and industry-dominated Bush Administration Energy Task Force also exemplified this perceived clash between economic stability and environmental ends – and, importantly, the lack of a more inclusive corporatist model used in policy development in the EU. Environmental groups were excluded from consultation about a future energy plan, and only major oil, natural gas, and nuclear representatives were at the discussion table. This example illustrates not only the close relationship between business and government (Kamieniecki 2006), but also the lack of any

independent government position, and a lack of interest in finding a balance between the environment and the economy.

The most visible advocate of an ecological modernisation discourse in the US has been former Vice President Al Gore. Well before his current interest in climate change culminated in awards and accolades for *An inconvenient truth*, Gore took a broad EM perspective in his 1992 book, *Earth in the balance*. There, Gore argued that the US could create more jobs by leading a new environmental revolution that produced greener technology to foster economic progress without environmental destruction. He proposed a Global Marshall Plan that would work to stabilise population, develop environmentally appropriate technologies, factor environmental costs into economic decisions, create new international environmental agreements, and focus on worldwide environmental education (Gore 1992).

Despite his literary efforts, Gore was politically unsuccessful during his term as Vice President. While he often advocated for a combination of economic development and environmental quality, Gore did not successfully convince President Clinton, Congress, or any federal agency to join him in implementing this vision. The administration did appoint a President's Council on Sustainable Development (PCSD), which, over six years of deliberation between environmental and business groups, came to recommend over 140 actions that would 'improve our economy, protect our environment, and improve our quality of life' (PCSD 1999). Very few of the proposals were even considered, being 'perceived as a threat to the economic growth imperative of the administration' (Dryzek *et al.* 2003, p. 66) and illustrating the resistance to an ecological modernisation discourse.

As for the failures of the Clinton/Gore administration during their eight years in office, former staffers note the time spent countering the Republican-controlled Congress and various scandals (Little 2004).[5] More recently, Gore himself has taken some of the blame, at least on a discursive level, noting that he has been trying to tell the story of climate change for some time, but feels as though he has failed to get the message across. Some continue to defend the administration, claiming Clinton may have made progress had he had a third term (Lashof, quoted in Little 2004). Others note the failure of the focus and public relations campaigns of the mainstream environmental movement (Shellenberger and Nordhaus 2004). The argument of Dryzek *et al.* (2003) seems a bit more convincing: the administration was simply focused on the economic imperative of growth, and saw EM-based policy as a threat to that basic task of the state.

Yet a shift is occurring in the US, with EM-influenced discourse becoming more mainstream, and EM-based movements forming, organising, and lobbying in the United States.[6] The discourse is in many ways familiar, mirroring the European emphasis of promoting efficiency, developing new technologies, and a clarifying the win–win scenario for both environmental quality and economic growth. Gore himself remains at the centre of this movement, the major figure in the public sphere. With the promotion and

success of *An inconvenient truth*, Gore has continued his campaign for basic elements of ecological modernisation policy, such as more efficient technology. In his standard stump speeches, Gore argued that

> dramatic improvements in the efficiency with which we generate, transport and use energy will almost certainly prove to be the single biggest source of sharp reductions in global warming pollution. Because pollution has been systematically ignored in the old rules of America's marketplace, there are lots of relatively easy ways to use new and more efficient options to cheaply eliminate it. (Think Progess 2006)

The development of new technologies is central to efficiency, economic growth, and better environmental conditions. One of the key economic arguments focuses on the growth of exports; here Gore argues that we 'need to fill those ships with new products and technologies that we create to turn down the global thermostat' (Think Progress 2006). The point is, again, economic growth at home, and the spread of (US-made) environmental technologies worldwide.

The EM discourse has also been expanding amongst major groups of the US environmental movement. Shellenburger and Nordhaus's (2004) famous critique of the environmental movement complained about the unimaginative focus of the movement's climate change campaigns. Rather than arguing over parts per billion of one pollutant or another, they insisted that movement groups need to take a broader approach and lay out demands for a move to a more efficient, technologically innovative, and environmentally friendly economy. Public relations experts that they are, Shellenberger and Nordhaus framed the change not around a European discourse, but an American history and spirit of innovation; hence the name for their organisation, the Apollo Project. The mission statement of the project, a think tank focused on developing a transformation of US policy and economic design,

> provides a message of optimism and hope, framed around rejuvenating our nation's economy by creating the next generation of American industrial jobs and treating clean energy as an economic and security mandate to rebuild America. America needs to hope again, to dream again, to think big, and to be called to the best of our potential by tapping the optimism and can-do spirit that is embedded in our nation's history. (Apollo Alliance 2006)

Ultimately, Shellenberger and Nordhaus' technological argument is for the transformation that ecological modernisation brought to many European policies and economies – a shift from end-of-pipe regulation and cleanup to front-end and forward-thinking efficiency, prevention, and innovation.

As noted, the federal government has done little to incorporate such ideas in federal policy. Given that initial reluctance and intransigence in national policy, the implementation of EM discourse was left to willing private companies and individual states – with the encouragement of many environmental groups. Several US corporations have begun to adopt part of the EM

discourse – that of efficiency – and have begun to change the practices and aims of numerous companies. One of the first to adopt greener business practices was Ray Anderson, the CEO of Interface, the world's largest manufacturer of commercial carpets and floor coverings. After reading Paul Hawken's *The ecology of commerce* (1994), about how economies should be designed so that both business and natural systems mutually thrive, Anderson (1998) began to consider how detrimental his company was to the environment. He pledged, in 1994, that his corporation would adopt greener mechanisms; the company now recycles old carpet into new, has cut the energy usage of his manufacturing in half, has used 'biomimicry' to design new products, and now pledges to have zero impact on the environment by 2020. Interface has become even more economically successful in this time – a demonstration that a previously toxic business can transform, through a focus on efficiency and new technology, into a sustainable and profitable endeavour.[7]

The benefit of efficiency has not been lost on other major American companies. For example, even the CEO of Wal-Mart, H. Lee Scott, has made clear his goal to use renewable energy, cut waste, and sell environmentally friendly products. Wal-Mart has begun to replace its truck fleet with fuel-efficient models, design more efficient stores, reduce solid waste in stores, and push products like fluorescent light bulbs (Little 2006, Barbaro 2007). Both Anderson and Scott argue that if their companies can illustrate the benefits of becoming greener businesses, then maybe other companies will be swayed to do the same. *Fortune Magazine* commented in 2006 that Wal-Mart can become the 'green machine' by adopting environmental business practices for others to follow suit (Gunther 2006). Examples of this influence and shift are increasing rapidly in the US For example, major computer manufacturers Hewlett Packard and Dell have pledged to improve the energy efficiency of products in an attempt to reduce carbon dioxide emissions (Kawamoto 2006), and to remove hazardous chemicals from PCs (Greenpeace 2006). As in the EM discourse, these companies see these product redesigns as a net gain (Moran 2006), and the 'greening' of their reputation a nice bonus.[8]

State governments have also moved to take on the discourse of ecological modernisation. California Governor Schwarzenegger has received the most press for his deal with the legislature to cut climate change emissions in the state and take a lead in technological development, including his famous 'Save the planet – or else' *Newsweek* cover. But numerous other states have also taken similar steps, in particular requiring the generation of more alternative energy. This is not the place to list these policies, but instead to point out the discourse surrounding them. These emissions and clean air goals are linked directly to potential profits; in California, the producers of ethanol, biodiesel, and other renewable fuels stand to benefit financially from the legislation (Steinhauer and Barringer 2007). But it is not just a general call for efficiency and potential profit; California is also working to attract these industries to the state. New technology, the argument goes, not only improves the environment, but also increases local jobs and boosts innovation in the economy.

The point here is that the recognition of the value of technological innovation, in particular the creation and utilisation of cleaner and more efficient technologies, is the EM theme finally finding resonance in various companies and states – and not just at a discursive level, but in policy as well. Such a focus has not been created in a vacuum; some environmental groups have been strong advocates of this discourse. Schwarzenegger's California plan was developed with input and support from Environmental Defense, the Natural Resources Defense Council (NRDC), and the Hewlett Foundation. These groups have been working with both states and industry on both efficiency and new technologies. For example, the NRDC is working on a project where 'engineers and entrepreneurs in Silicon Valley are taking advantage of their expertise in computer chips to design and manufacture electricity-generating solar cells that they hope will be increasingly competitive with traditional energy sources such as coal and natural gas' (NRDC 2006). These particular groups have shifted from a discourse of regulation of parts-per-million of effluent, to one of efficiency and technological advancement in order to benefit both companies and the environment.

Gore remains a central advocate of this part of the EM discourse, arguing that the approach of combining profitability with environmental ends goes beyond political ideology (Think Progress 2006). So the discourse of efficiency and the potential of new technology has finally taken root in the US, and has become acceptable – at least at the level of some businesses, some states, and some localities. These entities have responded to the potential of economic development, and have moved forward with policies and practices at these levels. The policy stranglehold of the national business community, however, and in particular the energy industry, continues to stymie policy at the federal level.

Ecological modernisation and security in the US

Efficiency, however, has not been the only discourse in the American context of EM. Our central question concerns what is unique about the growing adoption of EM discourses in the US. Similarities do exist between the European and US versions of EM, as noted above; however, two major themes have been added to the discourse in the US. In particular, the integration of the issues and languages of security and consumerism have both modified the discourse of ecological modernisation and made it more accessible in the US. Environmental groups have been at the forefront of these discursive shifts.

It is crucial to note that environmentalists' influence on anything to do with state security has been both limited and problematic; until very recently, the security imperative has always been used to deny and derail environmental initiatives. Some environmentally focused academics warned the environmental movement to avoid linking environment with security; Deudney (1990, p. 475), for example, asserted that for 'environmentalists to dress their programmes in the blood-soaked arguments of the war system betrays their

core values and creates confusion about the real tasks at hand'. Environmentalists would do much better, he argued, to focus on more traditional environmental values, such as health, beauty, and future generations. However, after 9/11 and in light of global climate change, security threats are changing the way that environmentalists both approach, and can use, the discourse of security to attain policies more attuned to ecological modernisation. And they can do so without denying those core values outlined by Deudney.[9]

Security has mostly been used to trump environmental initiatives or policies in the US. As Dryzek *et al.* (2003, p. 67) note, the 'security imperative has always defined an area of the state immune to environmentalist influence'. For example, a major plan in the 1980s to construct a vast track network for mobile MX missiles in the western US was off-limits to environmental objections. More recently, the EPA, after years of pressure from right-to-know activists, had planned to post on the internet public information regarding on-site chemical lists, worst-case accident scenarios, and planned emergency responses for certain industrial plants. Post 9/11, they were prevented by Congress from doing so. The chemical industry and their supporters in Congress have used security discourse, in particular the threat of terrorists choosing targets based on EPA information, to argue against the environmental discourse of public right-to-know (see also Vanderheiden, this volume). The security imperative has also been used by some administrations to justify US's absence from many international environmental agreements. For example, agreements on a nuclear test ban, or enforcement protocols on biological weapons are seen as infringements on American sovereignty. In all of these cases, a security discourse defeated numerous environmental movement campaigns. But this is beginning to change.

Energy security is not a new notion in American politics. President Nixon used the language in early 1970s to lay out a plan that stressed national security through energy independence; the focus was on both expanding exploitative technologies, such as a possible nuclear 'breeder' reactor, and renewable/ alternative technologies, such as solar, wind, geothermal and more. In his 1974 State of the Union, Nixon emphasised his 'Project Independence', and argued for energy independence by 1980. But Nixon was forced to resign shortly after, and the decade came and went without any real efforts to attain this goal.

Yet post 9/11, the phrase 'energy security' has been used with increasing frequency, and with the same general tone: to respond to potential security threats, the US needs to become less dependent on oil from countries, regions, and people with whom we are frequently in conflict. Yergin (2006) discusses the main fear:

> The renewed focus on energy security is driven in party by an exceedingly tight oil market and by high oil prices, which have doubled over the past three years. But it is also fuelled by the threat of terrorism, instability in some exporting nations, a nationalist backlash, fears of a scramble for supplies, geopolitical rivalries, and countries' fundamental need for energy to power their economic growth.

Overall, security concerns are contextually reframing the US need to create alternative fuel and energy sources as a preventative security measure.[10] The current Bush administration, not surprisingly, first took advantage of the energy security idea to support anti-environmental policies. It argued for increased domestic production of oil, in particular on federally protected BLM lands and in the protected Arctic National Wildlife Refuge (ANWR); the Administration lifted the ban on drilling in Alaska's fragile Bristol Bay – off-limits since the Valdez spill in 1989. Yet many current and former governmental officials, including national security advisors and military officials, have begun to warn that the US needs to create new technologies to become less reliant on foreign oil.

At a conference held for the American Council on Renewable Energy (ACORE), many top level former US security officials warned that renewable energy is needed to protect the US from future terrorist attacks. According to Frank Gaffney, a former national security advisor for President Reagan, 'We find ourselves dependent on imports from people who, by and large, are hostile to us. It makes energy independent a national security imperative' (Broehl 2004). Many former US security officials are supportive of the notion that the country needs to adopt greener mechanisms to avoid foreign policy endeavours that may result in threats to security.

Interestingly, the Pentagon has becoming increasingly concerned with the link between climate change and security. In an influential study, Schwartz and Randall (2003) lay out the implications of some of the most severe security scenarios possible due to rapid or abrupt climate change. They warn about increasing migration pressure on the US from Central and South America, conflicts with Mexico over water, intense stresses on numerous Asian countries and on southern Europe. Overall, the report warns about the impact of climate change on the earth's 'carrying capacity', and the potential of resultant resource wars. The authors insist that the rapid change scenarios discussed 'should be elevated beyond a scientific debate to a US national security concern' (Schwartz and Randall 2003, p. 3). Importantly, the report's recommendations focus on preparations and adaptation rather than the avoidance of such situations.

The US security component of EM has also been emphasised and disseminated by pundits such as the *New York Times'* Thomas Friedman. Freidman argues that the US must become independent of foreign oil to protect the US from what he alternately calls 'petro-ist' or 'petro-authoritarian' states, which are dominating the world oil market. Such nations are categorised as authoritarian regimes and are highly dependent on the sale of oil and gas for their GDP. He offers Iran, Angola, and Saudi Arabia as examples here, and claims that as the price of global crude oil increases, the role of democracy in these nations is decreased. As Friedman (2006a) states, 'Given the inverse relationship between the price of oil and the pace of freedom in petro-ist states, any US strategy for promoting democracy in these countries is doomed to fail unless it includes a credible plan for finding alternatives to oil and bringing

down the global price of crude oil'. Friedman focuses on the use of an environmental strategy to counter security dangers from anti-democratic states; alternative energy sources are posited as a response to a national security problem. 'When it comes to fostering democracy among petroauthoritarians, it doesn't matter whether you're a neocon or a radical lib. If you're not also a Geo-Green, you won't succeed' (Friedman 2007). This combined mantra of the fear of oil producers and the need for eco-security has become a common discourse, from both political pundits and environmental organisations.

As discussion of the relationship between energy policy and national security intensifies, national opinion is moving strongly toward support for energy security, and specifically the development of alternatives to dependence on foreign oil. A Democratic Party survey of likely voters before the 2006 elections asked voters to identify the two most important national security priorities over the next few years. Forty-two percent identified 'reducing dependence on foreign oil' as their top security priority; combating terrorism was a distant second at 26% (Friedman 2006b). Not surprisingly, the first major energy bill of the Democratic majority in late 2007, which focused primarily on automotive fuel efficiency and homegrown biofuels, was entitled 'The Energy Independence and Security Act'.

While the concept of energy security began with a focus that encompassed only energy and security, environmental groups and advocates have successfully expanded and popularised the discourse to encompass environmental quality and a concern with global climate change (see, for instance, Brick and Cawley, this volume). Numerous environmental groups and activists have brought environmental impacts and security together into a broader ecological modernisation discourse. In response to the November 2006 election results, the Sierra Club claimed that voters were concerned about energy security, climate change, and our dependence on oil; as a result, voters desired change. A 'big part of that change concerns energy security and enacting smart energy solutions that decrease our oil dependence, clean up our environment, curb global warming and create jobs' (Sierra Club 2006). Likewise, the NRDC's climate campaign makes the connection between EM discourse of technology development with the dangers of climate change and threats to national security (NRDC 2007). These organisations have continually pointed to the connection between energy insecurity, fuel efficiency and global warming emissions. Their first suggestion for attaining both security and a healthy planet was a call for fuel-efficient cars and new cleaner fuels (both of which feature significantly in the Democratic energy bill mentioned above).

Again, Al Gore has been at the forefront of the linkage between environment and security. He has incorporated security discourse into his calls for a strong response to global climate change, and linked both to the development and use of new technologies. Gore's arguments are quite similar to the Amory Lovins of the 1970s, who argued that the reliance on foreign sources for energy would be a security hazard for the United States. One of the goals of Lovins' 'soft energy path' was the decentralisation of renewable energy

sources in order to reduce political and environmental risks. Gore, however, and not surprisingly, uses the analogy of the internet. The original web was designed as a form of distributed communication that allowed it to continue to function even if part of it was destroyed. Gore argues that, similar to this effort, we should

> develop a distributed electricity and liquid fuels distribution network that is less dependent on large coal-fired generating plants and vulnerable oil ports and refineries. Small windmills and photovoltaic solar cells distributed widely throughout the electricity grid would sharply reduce CO_2 emissions and at the same time increase our energy security. Likewise, widely dispersed ethanol and biodiesel production facilities would shift our transportation fuel stocks to renewable forms of energy while making us less dependent on and vulnerable to disruptions in the supply of expensive crude oil from the Persian Gulf, Venezuela and Nigeria, all of which are extremely unreliable sources upon which to base our future economic vitality. It would also make us less vulnerable to the impact of a category 5 hurricane hitting coastal refineries or to a terrorist attack on ports or key parts of our current energy infrastructure. (Think Progress 2006)

Gore clearly links this discussion of new technologies and security to the threat of global climate change and its potential impacts; his ecological modernisation discourse – as well as that of environmental groups such as the Sierra Club and NRDC – is infused not only with issues of efficiency, technology, and an improved environment, but of national security as well. This is the combination that has defined both the discourse, and the more recent broad acceptance of ecological modernisation in the US.

We find the security discourse an intriguing addition to the traditional EM arguments of economic growth and efficiency. Security is a key imperative for states, along with economic growth (see the discussion in Dryzek *et al*. 2003). A focus on security is difficult for the US government to deny – especially given that the Pentagon itself is making the links between environment and security (Schwartz and Randall 2003). Even President Bush noted the danger of oil dependency in occasional speeches. There has been a definite shift in the language, from security as barrier to environmental initiatives, to environmental initiatives framed within – and integral to – a security discourse. This shift could be an unintended result of post-9/11 American paranoia politics which frames nearly all issues around security. Or it could be a deliberate strategy by movement organisations and policy-makers to propose sound environmental policies within an acceptable, and dominant, discourse. Either way, security is being directly linked to EM policy suggestions – in particular arguments around energy efficiency, new energy technologies, energy independence, climate change, foreign policy, and international relations. Given the centrality of security as a government imperative and responsibility, an environmental discourse framed in the language of security has much more chance of actual success and implementation – certainly more so than environmental policies seen as a threat to the imperatives of the state.

EM and the fashionable American consumer

Security is not the only addition to the unique nature of ecological modernisation in the US. An increasing focus on green consumerism is evident in the popular discourse surrounding the shift to more environmental and climate-friendly products. Sagoff (2005) famously called on the state to pay attention to citizen values rather than consumer values as a way to bring better environmental policies into practice. But he did not discuss what we would do if our citizen selves were ignored for so long. Americans have turned Sagoff's dualism on its head; consumer values are now reflecting a much greener tint. It may be that American citizens have been frustrated by the state's unwillingness to listen to them as citizens and do anything policy-oriented about climate change. Many are now taking it upon themselves to illustrate and live their citizen values and environmental preferences as consumers. Organic and local foods, clothes from non-toxic and renewable sources, hybrid cars, green housing and buildings, solar energy and windmills – 'lifestyle greens' now account for a significant share of a number of markets. The eco-conscious spend a considerable amount more now than they did when they were just buying bulk granola in the 1970s. Daniel Pink (2006) categorises this new American green trend as 'see-me-environmentalists' who want outfits, cars, and other products to match their green lifestyle and values. This more consumerist component of the US EM discourse is popularised by consumerism in general, as well as by celebrity culture. But there are also elements in the discourse of environmental consumerism as an ethical duty, based in a sense of obligation.

The importance of green citizen-consumers has been noted by some in the EM literature. Spaargaren (2002), for instance, indicates that citizen-consumers are a central force in reshaping and redesigning institutions, companies, and the ideas of policy-makers. If citizen-consumers want a greener lifestyle, then their desires will compel companies to supply such a demand. But the type of consumer shift described here is on a much grander scale; Americans are notoriously good at consuming. A whole new range of efficient, green, non-greenhouse-gas-producing products are now available, and the markets are growing. Bruce Sterling, science fiction author, futurist, and long-time champion of green design, puts it clearly (Sterling 2007). This trend is all about

> creating irresistible consumer demand for cool objects that will yield a global atmosphere upgrade...Why? Because they're not about spiritual potential, human decency, small is beautiful, peace, justice or anything else unattainable. The cybergreens are about stuff people *want*, such as health, sex, glamour, hot products, awesome bandwidth, tech innovation and tons of money. We're gonna glam, spend, and consume our way into planetary survival.

'Glamming' our way to survival depends on continuing the trend of illustrating one's dedication to the environment by being seen as green consumers. Major newspapers claim that 'green is in fashion – the new black, the must

have ...' (Wald 2006). This is illustrated, for example, in the popularity of the unique Toyota Prius over other hybrids; it is a more obvious embodiment of environmental values than hybrids that look exactly like non-hybrid cars.

In the US, we are increasingly seeing not just the techno-consumerist, visionary futurists such as Sterling advocating for such products, but celebrity culture as well. This eco-consumerism has been popularised by celebrity greens. *Vanity Fair*'s special 'green issue' illustrated the trend with Julia Roberts, George Clooney, Al Gore, and Robert Kennedy Jr. on the cover, and multiple stories and ads for green products inside. As the magazine argued, 'If Julia Roberts can do it, so can you' (Perez 2006). Shallow, yes, but salient with the American public.

In addition to simply popularising such trends, many celebrities are both living the life and promoting ways of spreading the availability of green products. Robert Redford advocates citizens join the Apollo Challenge (see Shellenberger and Nordhaus 2004; also see the introduction to this volume) to achieve energy independence within a decade. Gwyneth Paltrow, Cameron Diaz, Leonardo DiCaprio, and Tom Hanks promote green lifestyles on television shows, interviews, and magazine articles. George Clooney not only produced a film about oil politics and corruption, but also teamed with the Sierra Club and NRDC to create a campaign, 'Oil Change', to offer the audiences of *Syriana* ways to cut oil consumption and dependence. He purchased the electric, zero emission Tango, and has been touting it in public appearances (Perez 2006). Edward Norton developed a programme with British Petroleum (BP) which matched every 'celebrity' solar panel installation with a donation of solar panels for lower income housing. The 2007 Academy Awards ceremony promoted itself (via Gore and DiCaprio) as carbon-neutral (in addition to awarding an Oscar to Gore). And, of course, as a celebrity with power, Schwarzenegger pushes the greening of a whole state.

Overall, this green consumer trend is illustrating the pull of new technologies. Their popularity is growing not just among the technorati and the trendsetters, but among the public as well. Americans are increasingly supportive of the development of alternative fuel sources, and are even willing to pay more for those sources if convinced that they would result in better fuel efficiency, tax breaks, less dependence on foreign oil or decreased pollution (Green Progress 2006). The purchases of hybrid cars in the US increased dramatically in the last few years, from just over 84,000 in 2004 to over 251,000 in 2006 (greencarcongress.com). The industry understands that hybrid owners are motivated to buy such cars not only because of increasing gas prices and minimal tax breaks, but also because such purchases are better for the environment (Clarke 2006).

Importantly, cities and states are also involved in this consumerist approach to EM. 'The Bush Administration may resist the Kyoto treaty on climate change and Congress may debate environmental regulations, but when it comes to shopping, people in government are looking for alternatives that

are healthy for the planet' (Schwadron 2006). A number of states, cities, and universities now promote green or 'responsible' purchasing, from recycled paper and non-toxic solvents, to fluorescent bulbs, to recycled road repair material, to fleets of hybrid cars and biodiesel for public transportation, to requirements for LEED-certified public buildings.

The problem with all of this, as Barry and Doran (2006) argue, is that ecological modernisation is quite good at arguing for sustainable production, but it ignores the sustainability of consumption. In the US, ecological modernisation has begun to focus on the production side of economic activity, but the consumption of green goods is actually celebrated. Consumption is only questioned on the (growing) margins.[11] The key question is whether this consumer-driven form of EM is a harbinger of a new era of sustainability, or just a new round of consumption that adds to an already unsustainable economy.[12]

The argument here, however, is that EM has been popularised in the US precisely through this new green consumerism. Ideas about a shift to more sustainable goods are being radically popularised not only with talk about efficiency and new technology industries, but also by the opportunity to buy – and show off – lots of neat green stuff. So, on the one hand security discourse offers a straightforward appeal to a key imperative of the state. The discourse of consumerism, on the other hand, appeals not only the state imperative of economic growth, but also to the broad American desire to shop, consume, and be hip.

What's missing in US EM discourse?

So the discourse of ecological modernisation in the US has added a couple of unique elements to the traditional model, in the form of emphases on security and consumerism. Yet it is just as important to note the many elements of the European discourse that have not become part of the US framework. These include a focus on the precautionary principle, a dedication to public goods, and strong EM framing and discourse in the federal government.

Since the inception of EM, two general versions have been advocated in both theory and policy – that of a 'weak' and 'strong' EM (developed by Christoff 1996, but also discussed in Blowers 1997, Mol 2001, Dryzek *et al.* 2002). Weak EM can be categorised as focused solely on efficiency and technological solutions through a technocratic and corporatist style of policy-making. Weak EM is seen as an attempt to impose a single, limited, non-democratic, and closed-ended framework on political and economic structures and development. The strategy of weak EM is to maintain both political legitimacy and market competitiveness as the state and economy emphasise environmental benefits through technological advancement. However, this narrowly defined EM discourse imposes no significant change to corporate or political structures, and provides for minimal ecological outcomes (Christoff

1996). This is the EM most often implemented in Europe (though with some qualifications, see below).

In comparison, a strong version of the EM discourse considers broad ranging changes to society's institutional structure and economic system. It entails a process of open and democratic decision-making, use of the precautionary principle, and the potential of diverse forms of political development. As Christoff (1996, p. 488) states, advocates of a stronger form of EM would

> stress the transformative impact of environmental awareness on civil society and the public sphere, and on the institutions and practices of government and industry. They emphasize the ways in which citizenship and democratic participation in planning may serve to socialize and ecologize the market and guide and limit industrial production.

Overall, strong EM conceptualises political, economic, and ecological development in stronger and much more diverse and open-ended terms.

The US EM discourse is weak because its framework narrowly focuses on how alternative technological advancement can enhance the economy; even with the innovative additions of security and consumerism to the discourse, it remains firmly in a weak and narrowly defined conception of ecological modernisation. Such conceptualisations do not take into consideration the possibility of broader change. That change would include policy and economic decisions based on precaution, a more full form of ecologically reflexive modernisation, a recognition of the natural world, a sense of the environmental public good, or the value of open and deliberative democratic dialogue. The current US discourse on ecological modernisation – weak, if expanded with unique themes – clearly misses the opportunity, and the need, to argue more directly for broader change and increased democratic governance on these crucial issues.

For example, one component of the basic European EM lacking in the US discourse is that of the precautionary principle. At the centre of the precautionary principle is the concept of taking anticipatory action in the absence of complete proof of harm, particularly when there is scientific uncertainty about causal links (Whiteside 2006). The precautionary principle specifies that scientific uncertainty is no excuse for inaction on an environmental problem; in essence it requires action before proof is produced that something is damaging or dangerous. Thus, instead of reacting to environmental problems after the fact, and trying to mitigate them through regulations and technology, adoption of the precautionary principle would mean avoiding environmental 'bads' in the first place. But the reception to the precautionary principle in the US remains extremely hostile.[13]

In addition to the precautionary principle, the US discourse lacks another important notion present in the European version. Hajer (1995) argues that EM in Europe includes a recognition of the intrinsic value of nature, or at least a notion of nature as a public good. Without this notion, the environment

remains only an anthropocentric sink for waste and pollutants, even if the recognition exists that such a sink can cause problems for human populations. The US discourse, at best, focuses on developing efficient technologies, new energy sources, and greener products, rather than on an intrinsically valuable nature that is to be recognised and preserved through changes to political and economic policies and structures. While some green consumers note the important relationship between their purchases and environmental conditions, it is the 'stuff', rather than nature, that is seen as the public good. Only with the recognition of the environment as a public space can the discourse move beyond individual consumerism toward a more public ecology (Luke 2005).

This very weak and limited version of EM is one that is supported and spread by some of the major environmental organisations in the US, including those working most closely with states on implementing EM policies. It is unfortunate that these movement groups – and even their supposed killers and critics, Shellenberger and Nordhaus – have such a limited and weak approach to EM discourse and proposals.

Conclusion: the potential of EM in the US

So what is the future of EM in the US? Is the growth of the discourse simply a trend – a fashion that will soon pass? Or can we predict that, finally, the discourse may take hold in the US and help to transform the nature of short-term, heavy-footprint, enviro-ignoring policies and practices? We have had decades to be pessimistic, but a few reasons to be optimistic in the near future.

Shellenberger and Nordhaus (2004) made the argument that the main reason the climate change-oriented policy suggestions of the US environmental movement failed was because they were not 'framed' properly when presented to the US public. They argue (perhaps correctly given the greening of consumer desire) that citizens are much more motivated by a frame based in economic innovation and new jobs than they are a traditional conservationist approach, or even the newly developed security frame. But Shellenberger and Nordhaus conflate the preferred frame of citizens with that of states; they assume that if a frame works in citizen focus groups and is used broadly in public relations campaigns, then policy will automatically follow. Their backgrounds are in public relations, not political analysis. They have no *political* understanding of the imperative of states; as such, their (limited) proposals appeal to their paid focus groups, and possibly the funders of environmental groups, but not necessarily to policy-makers who may be captured (or corrupted) by industry and the status quo.

What we have argued here, in contrast, is that the growing discourse of a particular American-style of ecological modernisation has elements that can appeal to both public desire and state imperatives. In addition to appealing to the public, a successful movement discourse must align with various state needs (again, Dryzek *et al.* 2003). The EM discourse has, thus far, managed to do just that. The thesis here is simple: governments need to do certain things, like

provide security, raise revenues, secure economic growth, and secure legitimacy for itself in the eyes of the population. If a movement can articulate its demands along the lines of these key imperatives (as the EM discourse now does in terms of jobs, economic growth, and security), then it has a much better chance of succeeding. If the demands of the movement conflict with state imperatives (say, by threatening capital flight or job losses), then it will fail.[14] EM in the US has begun to take hold because it can appeal to *both* state imperatives and public desires – both citizen and consumer. In this way, tied to these imperatives and desires, we see the basic and weak ecological modernisation discourse in the US continuing to expand, even in the face of the existing policy adversarialism that dominates the political realm.

There is, so far, an additional untapped linkage. In an earlier piece (Schlosberg and Dryzek 2002), one of the present authors argued that there is potential in the US for a strong form of ecological modernisation, based in the demands of the environmental justice movement. That movement has articulated demands for public health, and has directly challenged the legitimacy of governments and agencies that fail to provide for that health. *Legitimacy* is yet another imperative of the state, and past movements have successfully articulated this emphasis in order to get state attention and action (for example, the civil rights movement demands on education and voting rights). The legitimacy of governing agencies, for the environmental justice movement, comes down to providing not just security and economic opportunity, but basic protection against environmental hazards and provision of public health. Increasingly, environmental justice activists see local and global environmental degradation as threats not just to communities, but to the legitimacy of the state.[15]

The point here is that this additional imperative of legitimacy could be brought into a broader ecological modernisation discourse that would address not just the economic realm and security, but legitimacy as well. Such an expanded discourse would appeal to both the public and to the state (at various levels). It could also be, as discussed by authors later in this volume, a basis for collaboration between more mainstream environmental groups and the groups and networks of the environmental justice movement. In other words, as Barry and Doran (2006, p. 272) conclude, EM can be seen as limited and reformist, but it can be radicalised and democratised with attention to related issues of social justice.

So we conclude by being guardedly optimistic about the potential for the continuation and expansion of the discourse of ecological modernisation in the US. At the very least, a weak form, focused on efficiency, economic growth, consumerism, and security, has clearly taken hold in the US, and there are good reasons for it to endure and grow. There remains the potential for an expanded movement discourse and mobilisation, and so a stronger and broader form of EM, to expand the limited and weak notion that now exists.

Notes

1. There has been an increasing focus on 'smart growth' or 'new urbanism' in the US, which contain some elements of EM. But these initiatives have mainly focused on housing density, livable cities, and limiting the need for cars; there has been little in this movement with regard to larger shifts in industrial processes or consumption. See epa.gov/livablecommunities.
2. The UK can be seen as an exception to Dryzek's argument, adopting EM principles without much of a corporatist structure. But the UK came quite late to its position, and the authenticity of its discourse has been questioned. See Barry and Paterson (2004).
3. The Netherlands has developed a National Environmental Policy Plan, based on EM principles, every four years since 1989. Germany famously embraced the precautionary principle to guide policy beginning in the 1980s. Sweden developed a coordinated pollution control policy, focused on total pollutant emissions rather a piecemeal approach of managing each chemical separately – again, efficient and cost-effective (see Weale 1992). The European Community's Third Action Plan for the Environment of February 1983 'was written in eco-modernist spirit' (Hajer 1995, p. 29). EM now permeates both key EU policies and broader environmental principles and action programmes.
4. Barry points out, however, that one of the motivations behind Blair's adoption of the discourse was to berate environmental groups and activists who were 'not on message in terms of their acceptance of the ecological modernisation approach and project' (2003, p. 309).
5. Note, however, that the administration had two initial years with both political momentum and a Democratic Congress, and passed no significant environmental legislation.
6. While the elements of the discourse are being popularised, it is important to note that it is not referred to as 'ecological modernisation' by anyone other than academics in the US.
7. Anderson has become an industrial poster-boy for EM methods (Dean 2007). See also the extensive discussions of Interface's campaign at interfacesustainability.com.
8. Critics claim such a reputation is the primary motivation. See the discussion in Kamieniecki (2006).
9. See the thorough discussion of Deudney's piece in Fidler (n.d.).
10. Certainly, other countries have also witnessed the increasing use of the security frame, especially around global climate change. But those nations have already accepted, in some form, an ecological modernisation discourse.
11. As in the 'freegan' movement. See, for example, freegan.info.
12. See also the discussion of sustainability and 'post-ecologism' in Blühdorn and Welsh (2007).
13. See, for example, Graham (2004).
14. One of the limitations of the Dryzek *et al.* (2003) argument was its sole focus on national governments. What an examination of ecological modernisation discourse in the US illustrates is that the same language of imperatives can appeal to state and local governments; these sublevels of government have adopted the

discourse based on using language that illustrates their responsibilities for economic growth, security, and public health.
15. Critiques of the legitimacy of a state that failed so miserably to respond to Hurricane Katrina are an example here, as well as the various proposals for a greener, more sustainable reconstruction of New Orleans. For a discussion of these types of critiques, and a more general sense of community functioning, see Schlosberg (2007, especially Chapters 3 and 4).

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