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PSA Teachers’ Topic Guides

Topic: environmental policy and politics
    - Professor Elizabeth Bomberg and Dr Paul Tobin

A guide for politics teachers in sixth form colleges and schools
ENVIRONMENTAL POLICY AND POLITICS (2015)

By

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Elizabeth is a keen teacher and researcher in the broad area of environmental politics and policy. Her geographic emphasis is on the UK, European Union and the US, and her thematic focus is on climate change, energy politics, activism, and multi-level governance. She is former general joint editor of the journal Environmental Politics and co-director of Edinburgh University's Academy of Global Environment and Society (GESA).

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Elizabeth and Paul are two of the co-convenors of the PSA’s Specialist Group on Environmental Politics. PSA Environment acts as a hub for environmental politics academics by organising teaching and research events for its members and tweeting the latest environmental politics news, via @psaenvironment. Paul and Elizabeth have both recently published chapters in Rethinking the Green State, edited by Karin Bäckstrand and Annica Kronsell (Routledge/Earthscan). The book explores whether a 'green state' - along the lines of an environmental version of the welfare state - can be achieved and, if so, what it would look like.

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AIMS

This guide is designed for A-level and Scottish Higher teachers searching for an up-to-date overview of events and scholarship (both classic and contemporary) in the field of UK environmental politics and policy.

The study of environmental policy in the UK covers a broad range of actors, issues and dynamics. We present here three guiding questions which capture the core features and major changes in environmental politics and policy in the UK.

The three guiding questions are:

1. What are the key features of ‘environmental policy’?
2. Who are the main actors?
3. Where is UK environmental policy made?

For each question this guide will cover both classical studies, as well as more recent scholarship and insights.

Case Studies: The fourth section of the guide outlines two contemporary case studies:

4.i The UK and climate change policy
4.ii Fracking in the UK

Both case studies highlight the themes introduced earlier in the guide and allow the reader to apply them to ‘real life’ policy.

The final section provides possible themes for class debates.

For more advanced students we also provide throughout the guide additional questions and material. This material is designed to enable students to reflect further and develop a deeper understanding of UK environmental politics and policy.
The study of UK environmental policy was traditionally focused primarily on discrete issues (usually air and water pollution) and government actors. Matthew Crenson’s *The Un-Politics of Pollution* (1971) and Albert Weale’s 1992 classic *Politics of Pollution* examined how and why governments addressed pollution in particular way, or why they struggled to do so. These and other studies were crucial in establishing some important features and dynamics of environmental policy which are still relevant today.

a. Environmental degradation as a by-product of otherwise legitimate activities

One such challenge outlined by Albert Weale is that environmental pollution is largely the result of activities much valued by society. Think of the source of most environmental problems: people producing things, people consuming, travelling places, farmers using fertilisers to grow food. In short, pollution and environmental degradation often arise as the by-product of otherwise legitimate activities within society. Because society values these activities it is difficult if not impossible for governments to halt this behaviour entirely. Instead, governments typically have tried to constrain or limit the negative effects of such activities. But it is difficult to limit bad effects without also constraining or limiting ‘good’ activity (such as job creation, consumer choice, food production).

So, environmental politics and policy is about finding a balance between constraining polluting behaviour without unduly constraining the activities producing it. What that ‘proper’ balance is will vary across different actor and interests. An owner of a large polluting firm may have a different view from that of a community environmental activist.

Advanced students might reflect on measures governments could take (or have taken) to address pollution without constraining the production of food, jobs or mobility. For instance, John Dryzek, et al’s *Green States and Social Movements* outlines well how some governments have promoted low carbon technologies, supported new jobs in the renewable sector, subsidised research on more efficient, less intensive ways of growing food as a means of addressing this challenge.

b. The environment as a collective good

A second classic feature and challenge of environmental policy is that environmental protection (ensuring clean air, fresh water, and a hospitable planet) is what we call a collective or public
good. That means it can't be parcelled out; it is shared by all living in that environment. An individual (or business, or state) can enjoy the benefits of clean air or cooler planet whether or not they have contributed to it or helped to protect it. For example, on your weekend outing you may have enjoyed the clean air around you, even though you did nothing to make it cleaner (indeed you may have made it dirtier). In the area of environmental policy there is thus a temptation for individuals to 'free ride' upon the efforts of others; free riders hope to enjoy the benefits without paying the costs. A lazy polluter can enjoy clean air even if they continue to drive, pollute, or degrade the land.

The problem is this: if everybody free rides, the net effect is that everybody loses. If nobody cleans the air, there will be no clean air and nobody can enjoy it. Scholars often use the example of fishing. It's perfectly rational for every fisherman to get out and catch as many cod as possible. Collectively it's ruinous: cod sources will deplete, they won't have the chance to reproduce, stocks will run out and nobody can fish for cod anymore. This is called collective action problem: what's individually rational is collectively stupid.

**Advanced students** might examine this dilemma at the global level where this collective action problem captured by Garrett Hardin (1968) and his notion of the 'tragedy of the commons'. Hardin asked his readers to imagine a pasture shared amongst farmers. Each farmer, keen to maximize profit, increases the number of sheep grazing on the pasture. The pasture rapidly runs out of grass and no sheep - or farmer - can then benefit from it. The global climate may be considered a 'commons' in danger of exploitation by 'free riders'; states that do not curb their emissions while others do so. However, Elinor Ostrom - recipient of the Nobel Prize for Economics - argues that while tragedies of the commons may happen, they need not be inevitable. Solutions can be found if responsibility for mitigation is shared across a wide range of actors at local and regional levels.

Governments struggle to find the best way to address the collective action problem. At the national level they have traditionally done so through regulation, that is, imposing limits on those producing pollution. The UK government, for instance, has imposed limits on power plant emissions, or on what industry can dump in the waterways. Officials can then police or monitor firms to ensure they are following the law. But regulation doesn't always work as intended. Loopholes can be found, or firms have little incentive to do more than absolutely necessary. More recent scholarship by Andy Jordan and his colleagues has focused on non-regulatory market tools such as taxes, charges, subsides or trading. Proponents of these market tools argue they are more workable and effective than regulation. Rather than imposing legal limits, market approaches focus on ensuring those that produce pollution are made to pay the direct cost. This is called the 'polluter pays principle'. An example might be a landfill tax:
instead of government mandating ‘you may not produce more than x tons of waste’, a firm pays for the waste it produces. Because waste becomes expensive, firms have an incentive to reduce it. They produce less not because the law insists they do so, but because it saves them money. Taxes on other activities (such as a carbon tax or road congestion charges) would have a similar effect.

Students may wish to examine the critiques of such market tools. Some scholars such as Robert Gardner or Sharon Beder offer strong critiques, arguing these tools merely sanction polluting behaviour (it’s ok to pollute as long as you can pay for it!). Moreover, they argue, by treating pollution as largely an economic issue they do not address what many feel is the underlying source of environmental problems: a social, political culture based on consumption and material gratification.

c. Scientific and technical core

A third feature of environmental policy is the increasingly important technical and scientific role of environmental policy and the complexity that brings. There is a clear technical core to the vast majority of contemporary environmental problems. That means that scientific or professional expertise has to be called upon when identifying and explaining a problem, and of course when determining possible solutions. For instance, governments and negotiators seeking to address climate change rely heavily on the scientific advice of climate scientists, such as those on the Intergovernmental Panel on Climate Change. But as Neil Carter notes in his text *Politics of the Environment*, scholars are increasingly aware that this scientific element is not always clear cut. On many environmental issues scientific questions remain: is there really a problem or risk? How great? Who should decide?

Moreover, scientific evidence itself can be manipulated by actors on both sides of an issue. To illustrate, even though - after many years - we can now say with much certainty that the climate is changing and human activity is responsible, interests opposed to government action on climate change can seize on the remaining uncertainty as a reason not to act. On other hand, as James Connelly and James Smith note in their text *Politics and the Environment*, some environmental NGOs have been accused of exaggerating the risks or danger of certain environmental problems.

d. Scope in time and space

A final characteristic given attention by both classic and contemporary scholars is the sheer scope of environmental policy. First, environmental issues cross time: problems or pollution created today will often have effects over the long term, affecting future generations whose interests are poorly
represented in the policy process. This characteristic raises a tricky problem of what we might call inter-generational justice. For example, we have buried tons of nuclear or toxic waste, the toxicity of which will last hundreds of years, and the danger of which is not fully understood. Is it fair to assume future generations will figure out what to do with it? The question has particular relevance in the context of climate change. Some writers such as Athanasiou and Baer (in their book *Dead Heat*) argue it is immoral to compel our children to find solutions to climate change problems we have created. This sentiment was more recently expressed by Pope Francis, speaking to the US Congress in September 2015 who insisted: 'Climate change is a problem which can no longer be left to a future generation' (24 September 2015).

Environmental issues cross time, but they also cross space. Pollution does not respect political borders so tackling environmental issues often requires cooperation between neighbours, regions, and states. Such cooperation can be very difficult to achieve as we'll see below in Section 4. Environmental issues cross policy sectors as well as borders. We now have a greater awareness of the connections between environmental and other issues. Such awareness was sparked by Rachel Carson's (1962) ground-breaking *Silent Spring*, which explored the use of the pesticide DDT in agriculture, and documented its devastating effect on birdlife. Since then scholars have become more mindful of how environment is affected not just by 'environmental policy' decisions narrowly defined, but by policies covering agriculture, planning, development, tourism and commerce. Governments - often divided into discrete silos or ministries - are not very well set up to deal with cross sector nature of environmental policy. Attempts to bridge this divide are apparent in some re-organised departments such as the UK's Department of Environment, Farming and Rural affairs (DEFRA). Such bureaucratic re-structuring, however, raises further questions. It is not clear, for instance, how much prominence environment priorities receive when combined with (often more powerful) farming interests.

Finally the range of environmental challenges continues to grow. The scope of environmental policy has thus broadened considerably to include a heavy emphasis on climate change and its implications, and an expanded set of actors. We explore these below.
2. Who shapes UK environmental policy?

a The changing role of interests and influence

The traditional focus of scholars has primarily been on lobbying and government relations (see PSA’s Pressure Groups and Government Teachers’ Topic Guide), or on well-established pressure groups, such as Royal Society for the Protection of Birds (RSPB) or World Wide Fund for Nature (WWF). Some of the most important early work was on collective action; how and why people come together to lobby or act on shared environmental aims. In his classic study, The Logic of Collective Action (1965), Mancur Olson argued that people are unlikely to join groups seeking 'collective goods' like environmental protection. Crudely put, why should one spend time and money supporting an interest group when the benefits the group works towards (i.e. cleaner planet) will come their way regardless? According to this logic, environmental groups which can offer their members little in the way of material interests are harder to form and less likely to survive. Yet the explosion in the number and strength of environmental interest groups in the UK or US (well over 10,000 exist) seems to defy this argument. Jordan and Maloney in their book The Protest Business argued that Olson may be wrong about what environmental groups can offer. Members of environmental groups receive benefits such as organizational skills, the opportunity to meet new people, or - crucially - the ability to contribute to shared goals important to them. In any case, the experience and development of environmental groups in the US, UK and Europe prompted other political scientists to challenge or qualify Olson's argument and refine our understanding of interest groups more generally.

Today, much scholarly work has shifted from a focus on groups' lobbying ministers, or funding election campaigns, to an examination of less visible methods of shaping government and public agendas. Scholars have built on the investigation by Bachrach and Baratz (1962) on groups' abilities to 'set the agenda' through the use of media. For example, if climate activists, in the run-up to a big conference, can get their favoured topic in the media, more pressure may be exerted on politicians to agree to a stronger agreement even without direct lobbying.

Advanced students can go further and engage with arguments of Lukes (1974), who analysed 'invisible' (or what he called the 3rd face of) power. Lukes described this 'invisible' power as the capacity of some actors to shape the preferences of others without ever needing to lobby, set an agenda or debate. For instance, the efforts of some interests, especially in fossil fuel-industries, to create uncertainty over the very existence of climate change, reduces the pressure on governments - or
citizens - to address the problem or commit to ambitious targets. We thus need to be aware not just of interests groups' direct strategies (lobbying ministers, contributing to campaigns, providing information) but also these less visible strategies and actions designed to shape the public's perception and policy agenda.

A third focus has been on the increasingly dramatic action by well-established environmental groups, such as Greenpeace. The second half of this short video can be shown to students to demonstrate how Greenpeace prioritises high-profile, direct-action campaigning techniques. The drama - manifest in images but also music, sound and camera techniques - is effective in capturing citizens' attention and/or prompting a sense of urgency and need for immediate action. The strategies of environmental interests (including NGOs) have also expanded in other ways. Today there is greater, and more sophisticated use of social media (not just videos, but use of Twitter campaigns, and on-line mobilization). A further development is the willingness of some established NGOs to cooperate with firms or other groups. An example is WWF's pairing with battery makers or MacDonalds.

Understanding the possible cooperation between environmental and business interests is important for several reasons. First, it broadens our understanding of how these groups might work. It also suggests that depicting business and environmental groups as inevitably and implacably opposed risks misses the nuanced ways environmental policy is interpreted and shaped. Several scholars highlight the growing number of firms benefiting from green industries, including wind turbine manufacturers and other renewables firms represented by RenewableUK. Insurance companies, meanwhile, are keen to address climate change and reduce the likelihood of extreme weather events that wreak havoc on insured property and land, and thus increase the number of expensive insurance claims.

In short, several scholars and analysts (and policymakers) now argue that economic and environmental interests need not clash. This notion is often captured in the phrase 'sustainable growth' or 'green growth'. This attractive idea suggests that with proper incentives, policies and behavioural cues, a nation's economy can enjoy both green and economic growth. The development of this idea can be traced back to the 1987 UN report Our Common Future which called for 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. In recent years, the dominant interpretation of sustainable development has focused on the greening of capitalism, rather than a more radical re-structuring of society and politics. By employing technological innovation, proper planning, efficiencies and market tools, this sort of economic steering (which scholars such as Arthur Mol term 'Ecological Modernisation') can allow for both economic growth and sustainable living. This version of sustainable growth has also
drawn criticism, due to its heavy reliance on future technological innovation as 'panacea', its failure to reduce overall emissions, and its assumption that more production, more manufacturing, and more consumerism is acceptable as long as it is low-carbon and efficient.

b Environment and party politics

Classic studies on the environment and party politics tended to focus primarily on green parties themselves, identifying their origins, structure and ideology. Although the ideological position of green parties has not always been clear - a popular mantra of Greens is that they are 'not left, not right, but in front' - green parties all emphasise environmental issues and a set of values loosely referred to as 'ecologism.' This set of beliefs, as explained by Andy Dobson in his *Green Political Thought*, offers a wholesale critique of advanced industrial society and advocates instead for a 'sustainable society', based on participatory democracy, decentralisation and reduced consumption of resources and material goods. To explain the popularity of these values in the UK and other industrialised democracies, many early scholars drew on Inglehart's (1990) concept of 'post-materialism', which he uses to explain how citizens - once their material needs have been met and they reach a certain standard of living - are more likely to become concerned with environmental and quality of life issues.

Like elsewhere, the early Green Party in Britain grew out of the environmental and peace movements of the 1960s and 1970s, which campaigned on issues such as nuclear power, weapons and radioactive waste. Some activists, frustrated at being outside the corridors of power, decided to extend their activities into the parliamentary arena by standing for election. The Green Party in Britain was amongst the first such party in the world; it was created as the PEOPLE Party in 1972, before becoming the Ecology Party in 1973, and finally the Green Party in 1985. Today there is not one 'UK Green Party' but several: the Green Party of England and Wales and sister parties in Scotland and Northern Ireland work closely together.

Party scholars in the 1990s became increasingly intrigued by the decisions of some movement activists to form parties and enter the parliamentary arena, and the internal conflicts this shift unleashed. Many focused on green parties' resulting 'strategic dilemma' which is faced by all radical movements and groups. How might green parties maintain their alternative 'green' credentials while joining parliaments and 'mainstream' politics? The initial challenge for Greens in the UK, however, has been to earn enough votes to get into Parliament in the first place.

Green parties have varied significantly in their electoral successes since their formation in the 1970s. Compared to other European countries, green parties in the UK have not fared well electorally.
One reason is that in the UK many 'green-minded' voters tend not to join a green party; instead they satisfy their environmental aspirations through membership of a green pressure group rather than a green party (per capita, the UK has one of the world's highest environmental group membership rates). Another explanation is the country's electoral system. Because green voters are mostly spread across constituencies rather than concentrated in specific areas, green parties do not fare well in countries like the UK, with single member plurality (or first past the post) systems. Greens do much better electorally in countries that use proportional representation (PR) electoral systems. To illustrate: following the Swedish general election in 2014, which used PR, the Swedish Green Party won enough votes to become a coalition government partner with the Social Democratic Party. In the UK, however, the Green Party received over 1.1 million votes in 2015 but won only one seat - Caroline Lucas, for Brighton Pavilion - out of a possible 650. The Scottish National Party, meanwhile, won just 25% more votes than the Green Party but received 56 times the number of seats.

Today, the key questions facing green parties revolve around not whether to embrace parliamentary politics, but how to 'play' it. Green parties have increasingly tried to avoid being seen as a 'one trick pony', and instead formulate policy positions on a wide array of policy issues. For instance, in their 2015 manifesto, the Green Party of England and Wales and the Scottish Greens both prioritised several other social issues, such as increasing the minimum wage, ending university tuition fees and creating rent controls for housing, alongside action on climate change.

Party scholars are likely to study not just green parties themselves, but how other parties and actors adopt environmental or green issues. In many states, including the UK, the environment has increasingly become a valence issue; that is, voters do not question whether we should protect the environment, but instead debate how we should best achieve that goal. (Healthcare and prosperity are classic examples of other valence issues.) However, while the environment may be a valence issue, it is not necessarily a salient (or relevant) issue for voters; the economy, healthcare and immigration are frequently identified as the most important issues in British politics during election times, with the environment languishing near the bottom. Green parties in Britain today thus face a triple challenge: the fluctuating salience of green issues amongst voters; rival parties or groups becoming increasingly adept at adopting - at least in their rhetoric - certain green issues; and the need to carve out a distinctive voice as green concerns appear more mainstream.
The traditional focus of scholars studying UK environmental policy was placed - not surprisingly - on the Westminster government and UK actors. This focus is still crucially important, but contemporary scholars now place more attention on the increasingly significant influences and actors 'above' and 'below' the state.

a From Above

International obligations play a key role in shaping UK environmental policy. One of the most well-known is the UN's Framework Convention on Climate Change (UNFCCC), which places considerable expectations on the UK to reduce greenhouse gas emissions (see the case study below). The UK, however, is committed to a wide range of environmental treaties and obligations, not just high-profile climate agreements. These other agreements include conventions on strikingly diverse issues such as the ozone layer, mercury, nuclear waste and weapons, and wildlife. In each of these cases, the UK is expected to demonstrate to the international community that it is fulfilling its obligations in addressing these environmental challenges. As a result, Britain's international standing and also its domestic policy (on, say wildlife, CFCs or mercury) is shaped by these international agreements.

The impact of the European Union (EU) on UK environmental policy is also very important. The EU, for a variety of reasons, has taken an active and robust stance on environmental and climate policy. Work by Andy Jordan and others outlines well the complex relationship between the EU and UK in this area. It is certainly no longer the case (if it ever was) that the UK makes its own policy divorced from external pressure. Nor is it true, however, that UK is 'ruled' by Europe, or forced to adopt wholesale EU policies. The truth lies somewhere in between and depends on the specific issue, its timing and importance, and the key actors involved. On some issues, (such as water quality) the UK has adopted targets or policies stricter than it might otherwise has done. In other cases, such as techniques to assess certain environmental risks, the UK has itself shaped EU policy.

b From Below

Meanwhile, an increasingly devolved UK means many issues are often shaped at devolved level either formally or informally. For instance, although energy remains primarily reserved to the UK level in constitutional terms, control over the construction of new large generating stations lies with devolved government. These powers were invoked by the Scottish National Party-led...
government in its pledge to prevent any new nuclear power stations being built on Scottish soil. In so doing, they in effect staked out an important Scottish non-nuclear policy at odds with the UK government's willingness to embrace nuclear power. A similar line has been taken on the issue of the fracking (see below). Examining the relationship between the central and devolved governments, we often find disputes over environmental policies disguise wider constitutional and political struggles concerning who should have power, and how much.

c Local and Community

Many writers now explore what role do and should local or community groups play in shaping environmental policy. Are local protests a sign of local democracy or just 'nimbyism' (Not in my Backyard) - an attempt to push environmental problems and responsibilities elsewhere? The answer, again, is probably a mix of both. On one hand, as well articulated by Chris Rootes, local environmental protests are an important form of local democracy. Defence of one's own habitat is an instinctive reaction and often well justified. Moreover, local protest can help policy-makers gain a deeper understanding of the issue at stake. Yet, it is also true that not all local communities are equally vocal. We know more affluent communities are far more active in protests. That imbalance raises the issue of whether unwanted, environmentally damaging projects are actually halted because of local protests, or just shifted to other sites populated by less well off, or less engaged citizens.
The UK has used climate change as a means of carving out an international environmental identity. According to the Climate Change Performance Index, which assesses states' climate policies and targets, the UK has been in the top ten performers every year since 2006, when the Index was first created. The themes outlined earlier in this guide can help us to understand the motivations underpinning the UK's climate change ambition.

1) Key features and widening scope of environmental policy

In many developed states, climate change has become an increasingly important issue as the scope of environmental policy - and attention to it - has widened. The catastrophic dangers of climate change have drawn significant media attention, particularly following the 2013-14 flooding which caused severe disruption and left thousands homeless. According to an Ipso Mori poll the events also resulted in a significant rise in number of Britons concerned by climate change. By 2015 nearly 90 percent believed the climate was changing, and over three quarters attributed that to human activity.

As climate change has risen up the agenda, it has affected attitudes towards climate as well as other issues. For instance, 'low-carbon' nuclear power is seen as less threatening, leading some green groups in the UK to prioritise climate change over the dangers of radioactive waste or accidents. Climate change has also expanded and challenged other core areas of state activity, including security, health and jobs. For instance, the threat of climate has encouraged policymakers to think hard about energy and its sources. The dependence on potentially unstable oil exporters primarily based in the Middle East; the health threats, such as smog, posed by fossil fuels; and the possibility of creating new, green jobs, have incentivised the UK to search for new sources of fuel (including through fracking, see below), and to invest in domestic renewables, such as wind turbines. While sometimes controversial and not always popular with local communities or conservation societies, wind turbines and other forms of renewable energies have the potential to improve UK energy security, public health and also reduce greenhouse gas emissions from the electricity sector. Some change has already occurred. Figure 1 below shows the UK electricity make-up in 2013. Since then renewables sources have grown while coal use has fallen. And in spring 2015, renewable energy produced more of the UK's electricity than did coal for the very first time.
2) **Who shapes UK environmental policy?**

Activists play an important part in shaping UK climate policy. 'The Wave' demonstration in London in the run-up to the 2009 Copenhagen COP and the 2014 People's Climate March brought tens of thousands of people onto the streets to campaign for more ambitious climate policies. Of particular interest to students is the [UK Youth Climate Coalition](http://www.ukyouthclimatecoalition.org), which is made up of young people all over the UK campaigning for climate action.

While certain businesses, such as car manufacturers, are well known for lobbying to reduce, or at least slow down, a states' climate ambition, there are also pro-climate businesses, such as tourism, renewable energy and environmental services. Similarly, climate policies can be helped by the absence of vocal opponents. For instance, the closure of many mines in the 1980s removed a major sectoral obstacle to climate ambition in the UK. With mines closed, robust climate policies do not pose a threat to UK jobs in the same way as they might in fossil fuel-exporting countries, such as Australia, Canada and the US. This example demonstrates how it is not only vocal supporters that enable policy change, but also a lack of vocal opponents.

Interest groups are very important, but without cross party support for climate policy, many policies, such as the [UK's pioneering 2008 Climate Change Act](http://www.parliament.uk/briefingpapers/sb1295.pdf), would never have been possible. When in government during 1997-2010, Labour identified climate change as a policy area in which the UK could be a global leader. Although the Conservatives had previously been seen as indifferent to international environmental concerns, leader David Cameron initially saw the environment as an opportunity to 'detoxify' the party. Early in his leadership, Cameron delivered pro-environment speeches, replaced the Conservative logo with the image of a tree, and even went to the Norwegian Arctic to be photographed with...
huskies. As a result, while climate change has become an issue for party political division in many countries, in the UK there was cross-party support for the pioneering Climate Change Act across Parliament in 2008. Since then, however, climate change appears to have slipped down the government’s political agenda, with an abrupt withdrawal of green subsides and the axing of many energy schemes.

3) Where is UK environmental policy made?

From Above:
While the Westminster parliament was crucial to the creation of the UK’s Climate Change Act, climate policy has also been created both above and below the state level. The EU is important here. In order to meet the requirements of the Kyoto Protocol, a 'burden-sharing agreement' was established between EU members, with different targets based on member states' historic emissions, economic growth and other factors. As long as an overall EU emission reduction of 8 percent (compared to a 1990 baseline) was achieved for the period 2008-2012, the EU could divide its reduction targets between its members as it preferred. As part of this goal, the UK agreed to cut emissions by 12.5 percent, whereas Greece, Ireland, Portugal, Spain, and, surprisingly, Sweden, were allowed to increase theirs.

For more advanced students, it is worth noting that the UK was arguably more capable of making emissions reductions as a result of the earlier sharp drop in emissions following a significant shift from coal power in the 'dash for gas' in the 1980s. In short, the UK had already made a significant reduction in its emissions without having to change too much. As such, the identification of a baseline is crucial when agreeing emissions targets, and also controversial.

From Below:
Following the UK Climate Change Act, the UK’s unique governance structure saw Scotland create its own devolved Climate Change Act in 2009. While Scotland’s Act features some of the same targets as the UK’s Act (for instance, reductions of 80 percent - based on 1990 levels - by 2050) the Scottish Act is more ambitious in the short-term, setting an interim 42 percent target by 2020. The ambition shown by Scotland may be a surprise to some, considering the importance of the oil industry to the Scottish economy and Scotland’s very small contribution to overall global emissions. However, as noted above, environmental policy is not just about the environment: in this case we see how Scotland’s ambitious climate targets and politics were also a useful means by which the Scottish government could assert its territorial distinctiveness on the national and international stage.
Finally, the local level is increasingly active in climate change work. Mayors Adapt is an initiative created by the European Commission which provides a framework for local authorities to take action at the city-level. Alongside Barcelona, Munich and Reykjavik, participating cities in the UK are Edinburgh, Glasgow, Greater Manchester, Leicester, Newcastle-upon-Tyne and Stirling. The scheme aims to encourage climate change adaptation (responding to the effects of climate change) and requires participating cities to create comprehensive adaptation strategies. This example demonstrates how policy-making occurs at many, overlapping levels.
Trapped deep underground in shale rock beds, massive gas deposits have been identified in the UK, US and elsewhere. The exploitation of this shale gas, especially in the US, has been described by energy expert Daniel Yergin as one of the most significant energy innovations this century. The potential benefits from shale gas exploration are huge: new mining techniques allow firms to tap vast natural-gas reserves previously deemed impenetrable. Unleashing this hidden natural gas would allow states to replace dirtier fossil fuels such as coal and oil. Moreover, a shale gas bonanza could bolster the domestic production of energy, thereby freeing states from dependence on less reliable foreign sources. Finally, the extraction industry promises local jobs, cheaper gas, and a general boost to the local economy. But the method used to extract natural gas from shale fields - hydraulic fracturing (or ‘fracking’) - is increasingly controversial. Fracking involves pumping a mixture of water, chemicals, and sand deep underground to fracture rocks and release deposits of gas. It uses a huge amount of water, most of which remains below ground. But it also produces 'flow back' containing the original chemicals used in fracking, as well as traces of additional toxic chemicals. Opponents of fracking have highlighted the significant potential environmental dangers and risks, including a triggering of earthquakes, the release of methane (a potent greenhouse gas) and concerns over contamination of local ground and water supplies.

Drawing in part on the rapid development of fracking in the US (where gas production has increased so dramatically that the US is now set to become an exporter rather than importer), the UK government has enthusiastically promoted the extraction of shale. In 2014, Prime Minister David Cameron announced its government would go 'all out' for shale as way to harness a plentiful, 'home grown' energy source. But public support for shale is mixed, and marked by growing opposition and protest. Growing public scepticism is reflected in a series of public opinion polls suggesting that a significant number of Britons worry that shale extraction is dangerous and that drilling should not be allowed. In short, fracking remains controversial and its future in the UK uncertain.

1) Key Features

An examination of debates surrounding fracking reveals several of the key features of environmental policy outlined above. One concerns the 'proper' distribution of collective environmental costs and responsibilities. While the benefits of shale gas could accrue to all, some locals would bear disproportionate costs (in the form of disruption, noise, and
environmental risk). This imbalance has not gone unnoticed. Indeed, the main grounds for opposing fracking has shifted from environmental worries, to concerns about local autonomy and control (see Table 1). To re-address this imbalance central government has offered councils local incentives, such as allowing them to keep 100 percent of business rates from fracking operations. But this incentive has not yet shifted opinion.

Table 1:

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<th>UK Shale Debates: Dominant Arguments, 2013-15</th>
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Table 1 Key: figures represent the number of times a message was invoked by UK pro or anti shale coalition members' websites or (by direct or indirect quotes) in 50 press stories from Jan 2013 to Jan 2015. Adapted from Bomberg, 2015

Another hotly contested issue surrounds safety and risk. Scientific or technical evidence is used by both proponents and opponents to make their case. Proponents cite respected studies which note the risks are minimal and can be controlled, whereas opponents cite numerous studies tracking accidents, spills and contamination. Because most laypersons cannot alone assess the scientific merit or detail of these studies, the trustworthiness of the 'messenger' (government, industry, interest group, and so on) becomes especially crucial. Let's examine these key actors.

2) Key interests

Fracking has elicited a strong response from both proponents and opponents. The pro- and anti-coalitions are not simply business versus environmentalists. Rather, certain firms (oil but also service industries) are very much in favour whereas other firms (renewables) are not. Similarly, opponents come from a broad swathe of public. To illustrate, protesters in Balcombe, West Sussex in summer 2013 included seasoned environmental protesters but also community associations, church groups, health charities and local residents.
Recalling our discussion of interest group strategies above, we see in this case how actors on both sides seek not just to lobby policymakers, but rather to shape the agenda and the public’s perception of the issue. An analysis of news stories and public documents carried out by Bomberg in 2012-15 noted a clear dominance of certain messages or arguments directed at the public (see Table 1). On one hand, opponents used emotive images (of children, environmental devastation) and phrases such as 'toxic waste floods' and ‘fracking hell’ to make their case. On the other side, proponents focused on the potential economic and security benefits, and peppered their communication with 'reassurance' messages. Firms stressed the UK’s long expertise with oil and gas exploration while Prime Minister Cameron described shale gas pads as ‘relatively small - about the size of a cricket pitch’. Comparing shale to a well-known, well-loved and non-threatening (usually!) game of cricket is an important attempt to reassure - and shape - public opinion.

3) Where are fracking decisions made?

Fracking also reflects well the multi-level nature of environmental policy-making in the UK. Firstly, various lessons and promises of shale are clearly drawn from abroad, most notably the US. Secondly, while decisions of whether to frack or not lie with the UK, the European Union also plays a role. The UK is subject to EU rules on pollution, water and chemical regulations, all of which are implicated in shale exploration. The UK has actively sought to shape emerging EU policy in this area.

Central government policymakers in London must also heed policy preferences from ‘below’, and these may well differ. Although central government has promoted shale very strongly, devolved governments do not share that enthusiasm. Indeed in 2014-15, both the Scottish and Welsh governments instituted a moratorium on fracking while further tests are carried out. We see here the different views taken by different parts of the UK, the assertion of devolved powers, and complexity that brings.

Finally, UK policymakers must be mindful of - and respond to - concerns voiced at the local level. It is here that opposition to fracking has been most apparent, and it is here that the fate of shale exploration may lie. While some argue local opposition is merely a form of nimbyism (you may frack but just not in my garden), other research suggests the opposition is far deeper and outward-looking than that. What does seem clear, however, is that without more local support it is highly unlikely an 'all out' shale policy will succeed.
The debate topics below touch on the themes explained in this guide and will enable students to probe in more depth the key dynamics and challenges of environmental politics and policy.

**Should voting systems be changed so the composition of parliament reflects the popularity of smaller parties?**

While the green parties of Germany and Sweden have been coalition government partners, the UK parliament has only had one Green MP despite gaining a similar proportion of votes as their continental counterparts. Yet, in a referendum in 2011, when given the chance to change the voting rules, the British public voted against a new system which would have provided greater proportional representation. What are the strengths and weaknesses of the different models?

**Is it 'fair' that some states could increase their emissions while others could not?**

Under the United Nations Framework Convention on Climate Change, states agree to a 'common but differentiated responsibility' to address climate change. That phrase includes recognition that different states may have same goals, but have different responsibilities and capabilities. Should the main burden for reducing emissions lie with developed countries that have historically produced the most emissions even if they are no longer main emitters? Or should developing countries be compelled reduce emissions despite their comparatively per capita wealth? What about some of the fastest growing economies such as India or China (currently the world's major emitter of CO2 emissions?). These are difficult questions of justice and politics.

**Can consumers help 'green' the economy?**

To what extent, if at all, can consumer activity can influence or help governments achieve environmental objectives.
Related reading from the PSA Blog

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- Fiddling (taxes and subsidies) while the planet burns and people freeze: the debate about green energy levies (11/11/13) - John Barry
- Latest UN Climate Report: Little Room Left for Sceptics (02/04/2014) - Paul Tobin
- David Cameron, the Conservatives and the environment (08/04/15) - Neil Carter and Ben Clements
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