

Shale Governance in the European Union: Principles and Practice

Executive Summary

The extraction of shale gas—mainly through the process of hydraulic fracturing or “fracking”—has become a central if contentious area of energy policy in the European Union (EU). Like their US counterparts, European policymakers are attracted by the potential huge economic and energy benefits of shale extraction, yet must also address dangers and risks associated with extracting natural gas from shale fields. How might policymakers govern this new policy area? Europe’s approach to shale gas governance is still in its infancy, but several guiding principles can be identified through an examination of the EU’s treaties, rules, policy principles, and practices. The most important governing principles include the precautionary principle, transparency, consultation/stakeholder “buy-in,” and environmental sustainability. Adoption of such governance principles provides useful guidelines for policymakers, and reassurance for the public. Positive lessons from their application can be applied to the US. But a close examination of their application in the EU suggests two important themes. First is the importance of context: how, when and why principles are applied will shape their effectiveness and impact. Secondly, the examination reveals that each of these principles is double-edged with clear advantages and clear limits. None alone will provide the “golden ticket” to effective shale governance.

Introduction

Although Europe has not experienced—and may well not experience - anything like the “shale revolution” sweeping the US,¹ shale is rapidly rising up the policy and political agendas of the European Union (EU) and several of its Member States. European policymakers are attracted by the same potential benefits of shale gas extraction as their US counterparts. 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 fuel energy sources such as coal and oil (natural gas produces about half as much carbon dioxide as the energy-equivalent amount of coal). A shale gas bonanza could bolster the domestic production of energy, thereby freeing states from dependence on dodgy foreign sources. Finally the extraction industry promises local jobs, cheaper gas, and a general boost to local economy. These potential benefits—economic, security, environmental—provide powerful incentives for the further exploration and exploitation of shale. But



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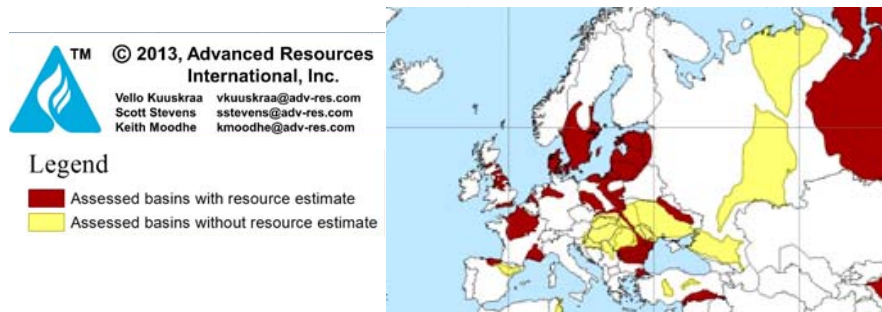


policymakers must also address dangers and risks associated with extracting natural gas from shale fields—mainly through hydraulic fracturing or “fracking.” The technique involves pumping a mixture of water, chemicals, and sand deep underground to fracture rocks and release deposits of gas. The operation is usually carried out by drilling horizontally into the rock layer to either extend existing pathways, or create new ones. Opponents of these extraction innovations highlight adverse side effects such as huge increases in water use, increased traffic and disruption, environmental dangers and risks, including the triggering of earthquakes, the risk that methane could escape into the atmosphere and, most importantly, concerns about contamination of local groundwater supplies. Thus EU and US policymakers both face fundamental challenges surrounding shale development: the need to balance risks and benefits, the need to address public concerns, and the need to coordinate action and rules across levels of governance.

This report analyses how European policymakers have sought to deal with these challenges thus far, and how they may do so in the future. It seeks, in particular, to glean insights that might be applicable elsewhere, especially in the US. To explore this question it applies a framework of “shale governance.” To govern is to steer or guide a polity in a particular direction; governance refers to the established set of principles, rules, and practices adopted to do that steering.² Governments are but one actor in governance; the term refers to wider patterns of interaction between government and societal actors including business, NGOs and experts. For this report shale governance thus refers to the adopted set of principles and practices guiding a broad array of decision-makers in the area of shale extraction and associated risks.

To understand governance in a particular area we must begin with an exploration of the principles underlying that steering. The report identifies the principles central to governing shale development in the EU. For each it explains the rationale for its adoption, how it is manifest in EU’s policies and practices, the limits of its application, and insights relevant to the US. Paying particular attention to the context in which these principles are applied, it finds that adoption of such principles provides (or promises to provide) useful guidelines for policymakers, and reassurance for the public. But it also demonstrates that each of these principles is double-edged and none provides the “golden ticket” to safe shale governance. Following a brief background to shale development in the EU the paper examines four core principles and their role in shale policies and debates. The final section discusses the findings and draws out themes for policymakers and analysts.

Figure 1
Shale gas basins in the EU



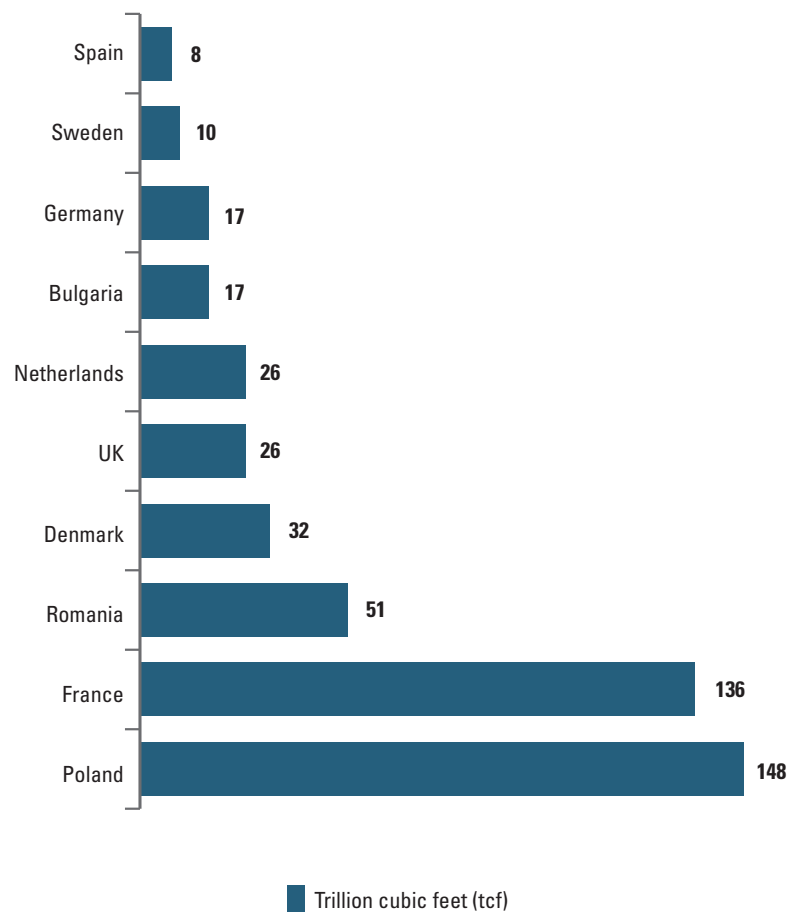
Source: Adapted from Figure 1. Assessed shale gas and shale oil basins of the world. In *Technically recoverable shale gas and shale oil resources: An assessment of 137 shale formations in 41 countries outside the United States* (p. 1) by V. Kuuskraa, S. Stevens, & K. Moodhe, June 2013, Arlington, VA: Advanced Resources International, Inc. Copyright 2013 by Advanced Resources International, Inc. Retrieved from http://www.adv-res.com/pdf/A_EIA_ARI_2013%20World%20Shale%20Gas%20and%20Shale%20Oil%20Resource%20Assessment.pdf



Shale Regulation in the EU: Background

Like the US, the EU includes significant internal variation in the development of shale gas extraction. Europe as a whole is estimated to have nearly 500 trillion cubic feet of technically recoverable shale gas resources in Europe (see *Figure 1*).³ But shale deposits—and enthusiasm for extracting them—vary significantly. *Figure 2* shows the uneven spread of recoverable shale deposits across European Member States. Enthusiasm for extracting that shale also varies (see *Figure 3*). The 28 European Member States represent a continuum, from the relatively keen Poles to the adamantly opposed French and Bulgarians. To illustrate—in Poland around 100 concessions have been granted, and despite setbacks the government plans commercial production by 2015. Close behind in enthusiasm is the UK where exploratory drilling has begun and the government has unveiled a package of measures designed to encourage development in the industry. By contrast, in France, home to the second largest shale reserves in Europe, President François Hollande announced in 2013 the continuation of France’s national moratorium on shale exploration. Although the focus of this paper is on the EU-wide approach to shale extraction and the principles underlying it, the variation across states, and how it is addressed in shale governance, will also be considered.

Figure 2
Shale Reserves across EU Member States
Technically recoverable shale gas reserves in Europe



Source: figures extracted from US Energy Information Administration (EIA). (2013, June 13). *Technically recoverable shale oil and shale gas resources: An assessment of 137 shale formations in 41 countries outside the United States*, p.6. Washington, DC: EIA. Retrieved from <http://www.eia.gov/analysis/studies/worldshalegas/>

Figure 3
Diverging Enthusiasm for Shale

Poland	UK	Germany	France
<ul style="list-style-type: none"> • Most enthusiastic; with 100 drilling concessions granted and drilling begun • Favourable geological conditions; comparatively large reserves • Motivated by economic growth and decreased dependence on Russia • Cross party support; limited public opposition 	<ul style="list-style-type: none"> • Enthusiastic government support • Moderate shale reserves • Institutional and economic incentives in place • Vocal local opposition; govt developing schemes to reward affected local citizens 	<ul style="list-style-type: none"> • Federal government broadly supportive; • ExxonMobil has drilled a series of test wells in Lower Saxony Basin • Federal legislation allows fracking under environmental safeguards, but prohibits it in some water protection areas. • Some individual Länder (states) remain opposed and have instituted ban 	<ul style="list-style-type: none"> • One of the largest shale reserves in Europe • Strong Government and public opposition • Renewal of national moratorium on shale exploration announced in 2013 • Nuclear energy key domestic source

In legal terms the EU does not have direct competence in the area of shale extraction: there is currently no specific binding regulation on shale, and Member States are permitted to choose to frack or not. The treaties make that clear: Article 194 (21) of the Treaty on the Functioning of the EU (TFEU) gives Member States the right to: determine the conditions for exploiting their energy sources, make choices about which of these to exploit, and reach decisions about the general structure of their energy supply (see *Box 1*). But the EU’s impact on shale developments is nonetheless significant. Under its Treaties the EU is tasked with ensuring a secure and sustainable energy supply, and the smooth functioning of the internal energy market. Carrying out these tasks inevitably means confronting and discussing the prospects of shale exploitation. In the last few years discussions of shale extraction and other non-conventional sources of energy have risen up the agenda of the European Council (the “Council,” where member state leaders are represented), especially in the context of energy markets and energy security. The EU Council’s Energy Roadmap—the key document setting out the EU’s overall energy strategy for the next decades—called for further discussion of shale’s potential.⁴ The European Commission (the “Commission;” the EU’s quasi-executive)⁵ and the European Parliament (“Parliament”) have issued several core studies concerning shale development and its impact on EU markets and energy security. In short, shale is clearly on the EU’s economic and strategic agenda.

The EU influences shale governance in a second, more important way: all states are affected by existing related EU regulation. These include market rules on “non-discriminatory access” to the opportunities for exploration, development, and production of hydrocarbons. More consequential are pollution, water, and chemical regulations which can impinge directly on shale operations. Member State decisions about shale extraction are thus significantly shaped by related legislation which is binding on Member States (which are also responsible for its implementation). Moreover, in early 2014 the European Commission took a first step towards the creation of shale-specific legislation. It issued a Recommendation establishing minimum principles for “safe and secure shale gas activities, as a complement to existing EU Rules.”⁶ These are non-binding recommendations—Member States still decide whether to extract shale and how to do so. But the recommendations are broad and encompassing, encouraging Member States to: assess carefully environmental conditions before operations start, assess environmental impacts, ensure wells are leak-proof, inform the public about



chemicals used, minimise emissions, and take into account other uses of natural resources. More generally the Recommendation urges Member States to ensure firms engage and apply “best practices” throughout operations. The Commission will “monitor developments” and in 2016 decide whether binding measures are necessary. In the meantime, we can draw on these recommended guidelines, as well as discussion and debate on the future shale policy, to discern the presence of governing principles, how and why they are applied, and the limits to their application.

Shale Governance: 4 Principles

I. Precautionary Principle

The intended aim of the precautionary principle is to help guide political and regulatory action when risks are unclear. It requires that, in conditions of uncertainty, decision-makers should prevent potentially serious or irreversible environmental harm. Or, in the words of Majone: “scientific uncertainty should not be used as an excuse for regulatory inaction.”⁷ In 2000 the European Commission established that this principle is applicable when “the risks are incompatible with the high level of protection sought by the European Union.”⁸ More specifically the principle applies when the scientific data are insufficient, inconclusive, or uncertain; or when a preliminary scientific evaluation shows potentially dangerous effects on the environment and/or health.

The principle’s codification in environmental law has become deeply entrenched in the EU’s Treaties, most recently in article 191 of the 2010 Treaty on the Functioning of the EU. It states explicitly that environmental policies should be based on the “precautionary principle and on the principles that preventive action should be taken.” Article 194 of that same treaty (covering energy policy) includes a provision to integrate environmental considerations into this EU policy as well.

Box 1 Shale and EU Treaties

The EU features several treaties, but the main treaty outlining how the EU should work in different areas is the Treaty on the Functioning of the EU (TFEU) which includes several provisions relevant to shale governance. In addition to treaty provisions on the single market, the environment, and the precautionary principle (Article 191), the most relevant is the article entirely dedicated to energy policy: Title XXI, Article 194.

Article 194 sets out the following EU objectives: to ensure the functioning of the energy market and security of supply; to promote energy efficiency, energy savings, and the development of renewables, and to promote connected energy networks.

Further, this article includes a provision that energy policies need to be made “with regard for the need to preserve and improve the environment” as well as “in solidarity between Member States.”

But that same article also makes clear that decisions about shale extraction remain with the Member State. It states that the fulfilment of the above objectives “shall not affect a Member State’s right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply.”

The Treaties thus provide guidance on several core aspects of shale governance, but that guidance can pull in different directions.

Title XXI, Article 194. See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:EN:PDF>

The fact that a principle appears in the Treaties does not determine how it is followed in practice, and the principle itself is contested. Critics charge it could lead to a “ban everything” mentality;⁹ defenders insist it allows an incremental diffusion of risky activities or technologies until more knowledge and experience is gathered.¹⁰ Most analysts of EU environmental policy agree that its application has not been open-ended. As Whiteside notes, a weaker interpretation is most common, restricted to the most toxic and human life-threatening substances and activities, with cost-effectiveness and technical feasibility remaining central concerns.¹¹ Some scholars such as David Vogel insist the EU’s increasing legal embrace of the principle—even in its weaker form—represents a more general

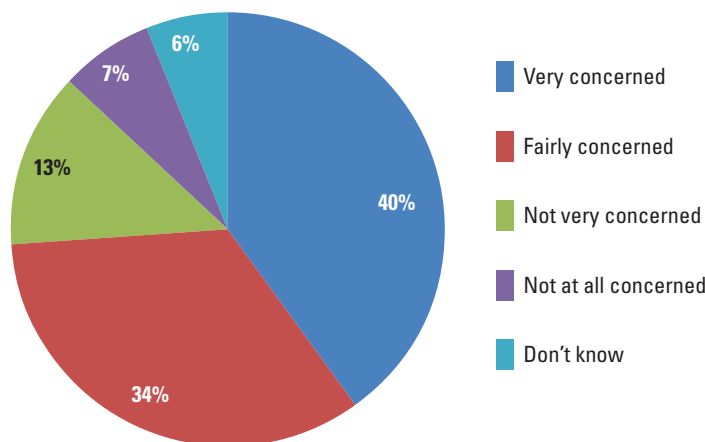
“precautionary turn” in EU regulatory traditions compared to its lapse in the US.¹² A more qualified analysis is offered by Wiener, et al. who conclude that neither polity is more precautionary: the “real pattern is complex and risk-specific.”¹³ However, both Vogel and Wiener agree that the EU has taken a more precautionary approach in two key areas implicated by shale development: water quality and chemicals.

Precaution features heavily in the EU’s water framework directive, the waste water directive, and the suite of chemical laws known as REACH (Regulation, Evaluation, Authorisation and Restriction of Chemicals). The latter explicitly seeks to improve integration of the precautionary principle, and Selin demonstrates how the law incorporates a higher level of precaution than US legislation on industrial chemicals and pesticides.¹⁴ Under REACH, chemicals used for hydraulic fracturing must be registered with the European Chemicals Agency and cannot receive approval unless it is ensured that they do not cause damage to the environment.¹⁵

The EU’s rationale for applying this principle robustly to the area of shale is two fold. The first is to provide an evidence-based analysis of environment, health, and safety risks in this new area of endeavour. A Commission (DG Environment) study, for instance, concluded that the “EU’s precautionary principle should be applied to the extraction of shale gas until there is evidence of its environmental safety.”¹⁶ The Parliament too has taken what it presents as “science-based considerations” when reaching its November 2012 resolution on shale. It stopped short of a moratorium but did demand the issue receive far more robust attention, including an EU-wide “risk management framework” which would ensure that “provisions for the protection of human health and the environment apply across all Member States.”¹⁷ In both cases the stated rationale for applying the principle was not to block its development, but to use evidence to guide how it should be developed.

A more exacting version of the principle is invoked by environmentalists in their efforts to halt shale extraction entirely. Citing public concern about the effects of fracking—such as a 2013 Eurobarometer poll which showed 74 percent were concerned about the possible effects of shale gas projects (see *Figure 4*)¹⁸—European environmentalists have pushed consistently and assertively to ensure precaution becomes the dominant norm, arguing that the EU institutions have a “duty to take a leading role in this legislative process [surrounding fracking] and make sure the precautionary principle is applied properly.”¹⁹ They highlight in particular the need to avoid the US practice whereby federal authorities have eschewed a proactive role.

Figure 4
European Public Opinion on Shale Projects
If a shale gas project were to be located in your neighborhood, do you think that you would be...



Source: Eurobarometer of the European Commission. (2013, January). *Attitudes of Europeans towards air quality* (p. 105). Flash Eurobarometer 360. Brussels: European Commission. Retrieved from http://ec.europa.eu/public_opinion/flash/fl_360_en.pdf



A second rationale for this principle's application is not risk assessment but public reassurance. Given public disquiet around the issue of shale in Europe, the EU's institutions and Member States need to proceed with caution and need to be seen to be doing so. As noted by the Environment Commissioner, "The Commission's role is to ensure that the rules of the game are clear and predictable for operators and authorities across Europe, *while providing reassurance to the general public* that appropriate climate and environmental safeguards are in place (emphasis added)."²⁰

For this rationale to be met, scientific knowledge of the risk is important, but so is knowledge of public perception. Risk, in other words, is as much a social as scientific construct. The guiding question for policymakers is thus not just what are the risks, but how are these risks perceived by the public. Here EU policymakers draw on studies that have identified several well-known "risk perception factors" that shape public acceptance of risk, including, for instance, whether the risk is voluntary, unfamiliar, or externally or internally imposed.²¹ Key to this application is the need for public involvement in assessing risk. A popular method, outlined in the EU's Good Governance Communication,²² explicitly features more stakeholder involvement in risk management (see also the Stakeholder section below).

In their quest to reassure, European proponents of shale have generally not sought to ignore or denude the principle (say, through seeking exemptions or supporting anti-regulation advertising campaigns). Such tactics are likely to backfire, especially if they come from economic actors outside the EU. Proponents are more subtle in their engagement with the principle, emphasising caution and de-emphasising risk. Statements from EU leaders underlined the need for caution. For instance Commission President José Manuel Barroso noted that the European Commission's role in shale development was to provide 'reassurance to the public that environmental and health safeguards are in place,'²³ whereas the Director General for Energy was attracted to shale precisely because it could be produced safely.²⁴

Business groups, including Shale Gas Europe, which represents major European and global energy firms engaged in shale extraction, also underline precaution as a necessary means to "effectively manage" risks.²⁵ In sum, these supporters of shale see the precaution principle as a tool which can be moderated and adapted to assuage public scepticism rather than stoke it.

This application sidesteps the question of whether a definitive, unanimous scientific risk assessment is possible, and focuses instead on its use as a reassurance measure. Crucially, it is applied not to convince the public that shale is risk-free, but that the process for assessing risks is robust. This application is useful in Member States whose public is more sceptical of practice (France, Bulgaria) or still in early stage of development (UK). It should also be of interest to different states or jurisdictions in the US with different precautionary thresholds, or those yet to embark on full scale development.

Limits

There are limits to this principle and its application. First, and best known, is the cost in time and money the application involves. Business objections are well-known and focus on over-zealous application which leads to delay and bureaucracy. Secondly, as a "risk assessment" principle, the application is marked by inconsistent interpretation. While a flexible adaptation is useful, even necessary, it can lead to widely different applications across Member States. In the EU the same principle has been invoked to justify exploratory drilling in Poland, and an outright ban in France. The Commission's regulatory risk framework is meant to address inconsistency but any harmonization will need to be balanced with accommodating the diversity of Member States. In the UK, for instance, where European scepticism runs high, the government has repeatedly reasserted its legal right to develop its own energy framework free from "EU interference." This same tension between uniformity and diversity will also affect US policymakers in their efforts to coordinate federal, state, and local regulation.

Thirdly, proponents claim that the rigorous scientific environmental and health considerations are the foundation of the precautionary principle assume a neutrality of science divorced from the contestation surrounding it. Risk assessment supposedly based on a rigorous methodology may, in practice, rely on a "multitude of assumptions and subjective judgements" as much as it depends upon an empirical observation of facts.²⁶

Fourthly, the principle's use as a reassurance tool is effective only to the extent that its application is closely monitored. Governance implies more than a rhetorical embrace: it means a principle is implemented on the ground. The more the principle is used by policymakers as a public reassurance tool, the more important are the resources to implement its operation. Finally, policymakers applying the reassurance frame need to ensure they do not become apologists for decisions already taken. In other words, the principle exists to reassure the public that caution is central to future decisions, not to reassure the public that decisions already taken were the correct ones.

In sum: the precautionary principle is broadly viewed in Europe as a useful guiding principle to help navigate risks of shale. Above all, the principle is very important as a reassurance tool. If applied correctly it can ensure public concerns are addressed and are seen to be addressed. It is too early to know which—or how robust—an application will dominate in any future binding regulatory framework. But developments thus far demonstrate it can be applied and adapted in a number of ways which encourage useful flexibility, if also inconsistencies.

II. Transparency

The precautionary principle includes a procedural emphasis on civic participation and transparency. According to the European Commission's definitive communication,²⁷ the implementation of the precautionary principle requires "the participation, under conditions of maximum transparency, of all the interested parties in the study of possible measures." In principle, greater transparency (and information) should allow for increased public scrutiny and stronger accountability of both industry and policymakers. The transparency principle matters enormously in the area of shale because of public disquiet and citizen concerns about shale gas.²⁸ The specific rationale in this case is that some of these concerns may be mitigated by more transparency in how the industry operates, and how policymakers reach decisions about shale regulation.

In rhetorical and legal terms, the EU's embrace of transparency (like the precautionary principle above) is strong and core to EU governance. It refers to the process of making EU documents, regulations, and decision-making processes more open and accessible to the public.²⁹ The transparency principle shapes the substance of several key shale policies (such as impact assessments or chemical disclosure) but also the process by which such legislation is agreed.

Transparency is one of the fundamental principles behind the EU's environmental impact assessment (EIA) rules which are designed to permit "transparent and democratic participation in the decision whether to allow such activities to proceed."³⁰ Similarly, REACH is meant to make clear and transparent the chemical compounds used in fracking operations (see previous section). In both cases EU policy makes specific reference to the International Energy Agency's *Golden Rules for a Golden Age of Gas*³¹ which emphasises the importance of transparent measuring and monitoring of impacts.

The European Parliament, which prides itself as the most transparent of EU institutions, is the most enthusiastic promoter of the principle and its application in substantive law. In their 2012 shale resolution, the Parliament noted shale production's "significant risks" and urged the Commission to "ensure these activities are preceded by an EIA."³² In late 2013 the Parliament pre-empted Commission action on shale regulation by introducing a compulsory requirement that all exploration and extraction projects undergo EIAs.³³

The transparency principle applies not just to the substance of legislation but the process by which it is made. Here the principle informs several stages of policymaking, with particular emphasis on the role of outside interests and lobbying. In response to public concerns, the Parliament and Commission established a "transparency registry" which requires lobbying firms to list their clients and other details. It also sets out a complaint procedure in cases of non-compliance by its signatories. This mechanism has been used several times by parties objecting to shale firms' actions.³⁴

Limits

Transparency is crucially important in ensuring that policymakers "get the right incentives to serve the majority of the population."³⁵ In practice, however, application of the principle has proven problematic for several reasons. First, there are some substantive gaps in this principle's application to shale extraction. A study carried out for the Commission³⁶ recognised that sustainable management



of shale exploitation requires “full and complete disclosure of chemical components employed.” While the EU’s chemical legislation REACH requires chemicals to be registered, the rules are complex and much confusion surrounds the exact compounds used in fracking fluid additives. While less generous than US opt-outs,³⁷ developers and companies operating in the EU need not (yet) disclose a full list of chemicals used “as this is considered an issue of corporate confidentiality.”³⁸ When asked if this opt-out would continue, the Director General for Energy stressed “there should be full transparency” but emphasised voluntary rather than regulated transparency: “The industry itself has every interest in being transparent, because if it explains things clearly then public acceptance will be much greater.”³⁹ That may be true; a new open website (NGS FACTS),⁴⁰ modelled on US FracFocus, promises to provide updated information on exploratory wells being operated in Europe. There is, however, no obligation for firms and organizations to participate. Voluntary transparency is thus unlikely to result in the “full and complete disclosure” of chemical components arguably needed for sustainable management of shale in the EU but also in the US.

Another limitation is that Member States approach the principle with varying levels of commitment and diligence. All are obliged to follow EU’s REACH or EIA rules but, as noted above, these do not yet cover all fracking operations. Some Member States have thus gone further, and mandatory EIAs for shale exploration and exploitation are in place or pending in several states, including Denmark, Austria, and Belgium. Others, by contrast, are under investigation for breaching current EIA rules. Still others, led by the UK, resent further imposition of “one size fits all” EU transparency rules on domestic decisions and call instead for flexibility where different traditions can be expressed. That varying embrace is not unexpected (and is well known in all multi-level systems such as the US), but is important because it can adversely affect “what companies and investors need most, i.e. a level playing field and a clear and predictable framework.”⁴¹

A further limitation is the trade-off between transparency and other policy imperatives such as efficiency and clarity. On one hand the lack of transparency has been seized upon by opponents of shale. Friends of the Earth Europe highlights with alarm the lack of transparency which comes “at the expense of public debate and the right to access of information.”⁴² They demand, with Parliamentary support, full disclosure of member state positions, and how agreements are met. On the other hand some worry that transparency could require a “dumbing down” of complex debates and analysis, and that “selective” transparency serves to confuse rather than inform. The result can be greater, but not necessarily better, information.⁴³ Finally, negotiators representing several Member States suggested debates may inhibit a frank exchange of ideas and the discussion of sensitive topics. Some go further and argue the real debates and decisions may simply shift elsewhere and happen informally.⁴⁴ While these are all legitimate concerns, the lesson from the EU is not that transparency should be scrapped, but rather that it needs to be managed carefully, and targeted at the needs of citizens rather than adopted indiscriminately as a Good Thing.

III. Consultation/Stakeholder “buy-in”

Linked closely to transparency is the idea of consultation—systematic interaction with civil society, experts, business firms, and other stakeholders. EU policymaking institutions consult regularly with public and private actors. The rationale for consultation is multifaceted. It is necessary as a mechanism for information gathering, but is also the means by which to shore up the legitimacy of the EU institutions and their actions.

EU institutions have been particularly active in consultation surrounding shale governance. Several of these actions are familiar to US policymakers, though not yet practiced as widely in the area of shale. First, the EU institutions have commissioned and publicised a series of high profile studies on the environmental, social and market effects of shale.⁴⁵ Secondly, the Commission regularly releases strategic discussion papers on energy or environmental strategy. The Energy 2030 Green Paper, for instance, was issued “to consult stakeholders to obtain evidence and views to support the development of the 2030 framework” which features the development of renewables, unconventional gas, and the relation between them.⁴⁶

Thirdly and more specifically, the Commission embarked on an intensive consultation on shale in late 2012. It issued a call for bids for grant proposals to design citizen dialogues and information campaigns on shale gas. It then launched an on-line stakeholders’ consultation (and received nearly 23,000 responses) with a stakeholder event held in June 2013. The event brought together stakeholders to “address potential challenges” at each stage of shale development (planning and site selection, operational aspects, and community aspects). The Commission stated it used these findings to inform its regulatory recommendations issued in early 2014.

The consultation is in part a much needed information-gathering exercise. The EU institutions, especially the Commission, are poorly resourced and need stakeholder input to formulate policies that are well-informed and likely to be accepted. Consultation of the general public is designed to gauge specific concerns and options and can reveal several important findings. For instance, the consultation revealed that public concerns about shale are not just about safety risks, but other issues including environmental sustainability, security, and the effect on climate and renewables.⁴⁷

Beyond information-gathering, these consultations are very much an exercise in “stakeholder buy-in”—a means by which to win stakeholder support for EU policy and actions. While the rationale for, and practice of, stakeholder buy-in is in many ways distinctive to the EU, the process holds important lessons for the US. The EU has adopted an “inclusive governance” approach whereby major actors involved in risk decision-making (political, business, and scientific interests, as well as civil society) should jointly engage in framing the problem, generating and evaluating options, and coming to a joint conclusion.⁴⁸ Seizing this opportunity to consult before development takes off is not an option for some US states where operations are well under way, but it is relevant for other US states and regions not yet fully embarked on shale extraction. In both cases it can help ensure decisions are being taken after fuller consultation by affected actors.

Another element of inclusive governance involves directly addressing opponents of shale development. The latter are well mobilized in many European states and at the EU level. Opposition is found not just within protest movements or NGOs but within several national parliaments and within the European Parliament. The Commission is well aware that fracking raises “significant public acceptability issues in a number of countries” and that “ensuring public participation and transparency in the process is essential to building trust.”⁴⁹ Stakeholder buy-in thus means explicit involvement of opponents. Note, for instance, the Commission’s stakeholder events in 2013 featured representatives from business and governments but also NGOs and critical Members of the European Parliament. More informally, the Commission meets regularly with NGO representatives and has supported (including financially) NGOs such as Friends of the Earth who have written quite critical reports on shale.



The European Parliament has been wary of endorsing shale exploration, though stopped short of endorsing a moratorium.
(Photo credit: Reuters/Vincent Kessler)



Public protest and opposition is especially notable in the UK and in France.

Photo credit (left): Reuters/Luke MacGregor Photo credit (right): de Marcovdz—Flickr

Unlike their US counterparts, European proponents of shale in the EU cannot promise individuals or the public any direct financial gain from shale extraction. In most European states mineral rights mainly belong to the state, so individual or community incentives to consent to potentially harmful or disruptive drilling are considerably reduced. Policymakers in Europe thus need to make a stronger case that the future (diffused) benefits of shale exploitation (cheap, secure gas supply) will not be undermined by costs to health and environment or community. Crucial to this buy-in is the promise of improved industry practices (including through invoking the precautionary principle; see above), fuller exchange of information among industry regulators and the public,⁵⁰ and more explicit engagement with affected citizens.

A particular priority in Europe has been the development of mechanisms meant to encourage community input and benefit. This local buy-in takes several forms. First is an emphasis on creating formulas that allow implicated communities a say in early decision-making surrounding risk assessment, but also a share in the proceeds should fracking commence. The European Parliament's shale resolution, for instance, identified frameworks which would explicitly allow national and local communities to benefit from shale gas resources. It specifically called on firms to “establish responsible community practices, ensure that local communities benefit from shale gas development, ensure application of the ‘polluter pays’ principle, and cover the costs of any direct or indirect damage they might cause.”⁵¹ Or a formula currently promoted in the UK is that industry produce “Community Engagement Charters,” through which local communities receive tangible benefits. These can be a share of revenues to improve local infrastructure, reduced energy bills, a “community benefit” financial package, or a percentage of production revenues.⁵² For instance, a specific UK proposal is that communities affected by shale gas drilling would receive £100,000 in community benefits and one percent of production revenues, should sites start producing gas.⁵³

Limits

Consultation is a hugely important principle underlying the governance of risk. But the limits of its application are evident in the EU and should be heeded by policymakers elsewhere. First, consultation needs to be widespread enough to meet the aims outlined above. Excessively cozy consultation between regulators and industry results in the well-known problem of regulatory capture or “foxes guarding chicken coops.” The charge has been leveled against the UK's new Office for Unconventional Gas and Oil which is meant to act as both a regulator and promoter of the shale gas industry.⁵⁴

On the other hand, wide consultation brings with it its own limits. Dalal-Clayton and Bass note the wider the involvement, the less controllable, less predictable, and often slower the decision-making.⁵⁵ Moreover, stakeholder “buy-in” can easily be mis-communicated and resented: citizens may feel not “bought in” so much as “bought off.” Environmental NGOs themselves criticise each other for “selling out” and not all opponents will willingly join others at the negotiating table. Similarly, communities offered financial incentives may well balk at what they perceive as an attempt to hush up opposition with funds. Typical is one village resident's response to the UK government's offer of monetary community benefit for those affected by fracking: “What a piffling and insulting offer. So you get a new library or village hall but you lose your water supply and can't farm anymore.”⁵⁶

Finally, consultation and buy-in can deliver a greater knowledge base and encourage creative ideas concerning, say, participation of local communities. But any process or initiative agreed will ultimately depend on local and national resources to implement, enforce, and monitor them. In sum, like other principles discussed, consultation and stakeholder buy-in are not panaceas. Each needs to be finely tuned to the circumstance and constituency most affected. But as a means to ensure the public feel they are part of the process, consultation remains critical. Combined with robust regulations, monitoring and enforcement, consultation will help ensure the public is—and perceives itself to be—both consulted and protected.

IV. Environmental Sustainability

The principle of environmental sustainability is linked to environmental risks outlined above, but refers more generally to integrating environmental concerns into all policies so as to protect the natural environment, encourage more resource efficiency, and “accelerate the transition to the low-carbon economy.”⁵⁷ The principle thus guides decisions about specific environmental effects, but also decisions regarding the EU’s overall energy mix and future.

Like the precautionary principle, environmental sustainability is well grounded in EU legal texts. It has become a key principle of EU policy, evident in growing recognition of sustainable development goals, and the explication of strategies to achieve them. The EU’s own study on environmental effects of shale delivered a strong message about the potential environmental damage of shale gas extraction, including threats to water, air, and biodiversity.⁵⁸ The core Treaty outlining the functioning of the European Union (the TFEU) also explicitly states that Union policy is not just to secure energy supply but to promote energy savings and the development of renewable forms of energy. Moreover, EU discourse refers repeatedly and prominently to the need for energy efficiency and thus the need for fewer sources of energy in the first place.

Compared to its application in the US, the principle undoubtedly has greater resonance in EU discourse and amongst European public opinion.⁵⁹ Local environmental effects are felt more acutely in densely populated areas. Moreover, the EU has a specific geopolitical rationale for its wide application: its search for a global leadership role (especially in climate negotiations) depends on it. But its consideration in US discussions would be helpful for several reasons. First, while sustainability concerns may not be as pressing to the US population as whole, they help explain opposition within some states, especially those with a history of stronger environmental regulations or a strong renewable sector. Second, the principle of sustainability draws attention to more localized effects. It could be especially useful in decisions surrounding US operations in densely populated or vulnerable areas and help elicit public engagement (if not acceptance) by ensuring the public’s full concerns are met. Moreover, attention to long-term sustainability provides a significant push for the development of technological alternatives to, or so-called “greener” methods of, hydraulic fracturing and the economic benefits those might bring. Programmes to reduce water and chemicals used in shale gas, or substituting diesel with mineral oil, or methods to reuse waste water are in the very early stages of development and would take years to implement.⁶⁰ But the point is that incentives to develop these are largely missing without reference to the principle of sustainability. Assessing the benefits and costs of shale within the wider principle of sustainability can help policymakers reach a more holistic assessment of shale’s impact beyond specific questions of particular environmental risks.

Limits

The EU’s experience has also illustrated limitations to applying this principle. First is the gap between the EU’s sustainability rhetoric (very well developed) and patchy implementation on the ground. Adopters of this principle need to ensure execution of principles at member state and local levels. Secondly, the principle’s application in the US would also require modified discourse. Sustainable development or preserving the climate is not nearly as resonant in the US as an appeal, say, to the economic benefits of sustainability, efficiency, or new technologies.

A further drawback of applying this principle is that it can be—and is—used to make fundamentally different arguments about shale. Proponents argue shale exploitation is a way to achieve greater sustainability; it is promoted as a “transition” or bridge fuel: cleaner than coal and therefore a step towards a more sustainable energy future. Opponents invoke the principle to make clear the un-sustainability of shale, especially in the context of climate change (with particular attention to the escape of methane). They raise



concerns not just of the immediate threat to environmental sustainability, but also to the problem of “fossil fuel lock-in”—the worry that shale will nudge out investment in renewables, slow the transition to a sustainable, low carbon economy, and “lock-in” damaging fossil fuel dependency.

Proponents thus may fear applying this principle will simply provide further grist for opponents’ mill. But this fear is short sighted. For shale to be acceptable and (economically) sustainable over the long term it needs to confront and assess rather than dismiss these sustainability claims. Embedding discussions of shale in a long term sustainability policy alerts the public to the long term costs and benefits, and provides a more holistic assessment of how shale exploitation fits into a polity’s energy, health and environmental goals.

Conclusion

This analysis has focused on Europe’s approach to shale governance and outlined the key principles underlying that approach. For each it has explained how and why it is applied in the European context, and the limits of that application. The European experience is not presented as an exemplar for the US. The EU lags behind in shale development and in many ways is fundamentally different. The report has noted the different circumstances, different rationale, and effects. But learning from others needn’t mean emulation. It means extracting insights from experiences, in this case the application of key governing principles. The EU experience offers insights into how and why certain principles are applied and how they should—or should not—be adapted and applied in the US.

The analysis of these core principles has also revealed broader themes of shale governance. First we have seen how principles can be interpreted and invoked differently by different interests. Principles are not neutral guides; they are used by stakeholders to achieve different aims: EU institutions invoke transparency and consultation as a means to shore up legitimacy, environmental NGOs invoke precaution as way to halt the process, and shale business interests (including those not normally associated with sustainability) invoke that principle to advocate shale over coal. This exploitation need not undermine the importance of principles but it should make us more mindful of how and why they are invoked and supported.

Next, we must recognise that the adoption of principles—including demanding consequential ones outlined here—will not in and of itself lead to the effective governance of shale risk. Governance requires that those principles become “institutionalised;” that is, broadly accepted and consistently, routinely applied in practice. That requires the support of key actors at various levels of governance who must feel these principles serve—or least do not threaten—their own interests. But it also requires coordination and constant negotiation amongst states and agencies, and regulators and other stakeholders. In short, adoption of core principles is a necessary but not sufficient condition of governance.

Linked to the above is the importance of monitoring and enforcement. In both the US and the EU, governance will require the strengthening of capability and resources of local, state, and national agencies, including those that may not possess the necessary staff or skills to establish locally appropriate regulations, or the monitoring and enforcement mechanisms required.⁶¹ Enforcement and monitoring of safety measures is hugely challenging, especially if (when) it imposes costs on industry. The International Energy Agency estimates that the necessary “rigorous assessment and monitoring” of water requirements, emissions, and well construction will add a seven percent cost to the construction of developing a typical shale well site.⁶² Is it a cost worth considering? Yes. Effective governance requires the support not just of industry but other stakeholders and the public at large. Monitoring may appear expensive, but it contributes to the (arguably) priceless commodities of public acceptance and trust. Without that acceptability industry will struggle to earn the “social license”⁶³ it needs to operate sustainably.

Finally, given the above challenges it behoves policymakers to collect and share experiences of shale governance, and to continue to search for good practice and insights across borders, boundaries, and levels of governance. US policymakers need to draw on success stories from home, but also successes, failures, and insights gathered from other systems. That includes systems which may be culturally, legally, and politically distinct, but face a shared fundamental challenge: how to govern risk in a contested, multi-level, and fragmented democracy.

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