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The Standardisation of Oil and Gas Law: Transnational Layers of Governance

*Professor Djakhongir Saidov**

This work examines the main sources, governing the international oil and gas operations around the world, with a view to examining whether we are witnessing the emergence of transnational petroleum law. The work explores the nature of governance in the petroleum industry and the extent to which the oil and gas industry is self-governed or governed by the state-made law. It assesses the degree of standardisation of governance to determine whether it is so high as to give rise to the emergence of *lex petrolea*. The main focus is on sources, specific to the oil and gas industry, such as: model contracts, industry usages, standards and guidelines promulgated by various industry organisations and associations. This work argues that *lex petrolea* is not yet a mature legal order. Its sources are best characterised as transnational layers of governance of the international exploration and production operations. As to the relationship between the alleged *lex petrolea* and the state-made law, it is demonstrated that the two are vitally important to and mutually dependent on each other.

Keywords: Oil and gas industry; *lex mercatoria*; transnational petroleum law (*lex petrolea*); international exploration and production operations (upstream); upstream legal regimes; model contracts; industry standards; industry usages.

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1 Introduction

In a globalised environment, with its drive towards harmonisation (if not uniformity) of governance of commercial operations, many industries and commercial sectors evince a tendency towards increased standardisation of governance¹ and ‘self-regulation’, not rooted in or based on national or state law.² These phenomena form an important part of a long-standing debate about the existence, meaning and content of *lex mercatoria*, the global law merchant that is autonomous from the state-made legal orders.³ Some of the key questions in this debate are: Does the law governing business transactions that is autonomous from that state-made law really exist? If so, what are its sources and what legal consequences do they produce? These questions have also been directed at the oil and gas industry — the focus of this work — which is a major economic and energy sector with an enormous impact on world economy, commerce, environment, employment and daily lives of people. It has been argued, for example, that due to the proliferation of the non-state made rules and norms a ‘transnational petroleum law’ or *lex petrolea* has emerged.⁴ Whilst the meaning of the term ‘transnational law’ is notoriously difficult to define,⁵ the following characteristics feature prominently in the transnational law discourse:⁶ its concern with activities transcending national borders; autonomy from the state-made law, whether domestic or international; its being created by non-state, industry or commercial actors; its constituting ‘a distinct regulatory space’ that ‘differ[s] from the national and the international due to its de-territorial

¹ Seen, eg, in an extensive use of and reliance on standard form/model contracts.

² See, eg, the following chapters in V Gessner (ed), *Contractual Certainty in International Trade: Empirical Studies and Theoretical Debates on Institutional Support for Global Economic Exchanges* (Hart Publishing 2009): BD Richman, ‘Ethnic Networks, Extra-Legal Certainty and Globalisation: Peering into the Diamond Industry’ 31-48; W Konradi, ‘The Role of *Lex Mercatoria* in Supporting Globalised Transactions: An Empirical Insight into the Governance Structure of the Timber Industry’ 49-86; T Dietz and H Nieswandt, ‘The Emergence of Transnational Cooperation in the Software Industry’ 87-106.

³ For one well-known definition of *lex mercatoria*, see B Goldman, ‘The Applicable Law: General Principles of Law: The *Lex Mercatoria*’ in J Lew (ed), *Contemporary Problems in International Arbitration* (Martinus Nijhoff Publishers 1987) 113, 116 (‘a set of general principles, and customary rules spontaneously referred to or elaborated in the framework of international trade, without reference to a particular national system of law’).

⁴ See, eg, A De Jesús O, *The Prodigious Story of the Lex Petrolea and the Rhinoceros. Philosophical Aspects of the Transnational Legal Order of the Petroleum Society*, (2012) Vol 1, No 1, TPLI Series on Transnational Petroleum Law, Transnational Petroleum Law Institute, at: <<http://www.adejesus.com/>>.

⁵ See, eg, P Zumbansen, ‘Transnational Law, Evolving’ in J Smits (ed), *Elgar Encyclopedia of Comparative Law*, 2nd edn, (Edward Elgar 2012) 899, also at: <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1975403> (together with a comprehensive list of references).

⁶ See *ibid*; JP Braithwaite, ‘Standard Form Contracts as Transnational Law: Evidence from the Derivatives Markets’ (2012) 75 MLR 779, 780-783 (with further references).

scope and its hybrid, public-private constitution'.⁷ It is in this sense that this term will be used here.

The argument as to the existence of transnational petroleum law rests on several inter-linked premises. One is that there is a global petroleum community that has created this specialised legal order.⁸ This premise is based on the idea of 'legal pluralism', according to which the characterisation of a source as 'law' depends not on whether it is made by the state but on whether it has been made by an appropriate institution within the relevant community: 'whenever there is a social body that meets a certain degree of autonomy and organization there is manifestation of the law'.⁹ Another premise is that autonomy of *lex petrolea* flows from its self-sufficiency, derived from its sources and its being a specialist branch of *lex mercatoria*.¹⁰ Yet another premise is that cross-border contracts function best in a legal order which is transnational in character.¹¹ Whilst there is no agreement on the precise definition of *lex petrolea*, the following seems to capture its essence: 'norms or principles of law of particular relevance and application to the international petroleum industry, developed through the usage and practices of the industry to meet its needs and specificities and which attain their legitimacy as "law" through their acceptance by the industry and the decisions of international arbitral tribunals'.¹²

As seen from this definition, one potential source of *lex petrolea* consists of international arbitration cases. Many of them have been reviewed extensively elsewhere¹³ and, in this

⁷ P Zumbansen, 'Defining the Space of Transnational Law: Legal Theory, Global Governance and Legal Pluralism' (2012) 21 *Transnational Law and Contemporary Problems* 305, 324-325. This author himself, however, proposes to view transnational law as a 'methodological approach...through which we can study the particular transformation of legal institutions in the context of an evolving complex society' (ibid 308), 'a particular perspective on law as part of a society that itself cannot be sufficiently captured by reference to national or de-nationalized boundaries' (ibid 325).

⁸ De Jesús (n 4) 38-40.

⁹ Ibid 35.

¹⁰ Ibid 36.

¹¹ Ibid 34.

¹² A Wawryk, 'Petroleum Regulation in an International Context: The Universality of Petroleum Regulation and the Concept of *Lex Petrolea*' in T Hunter, *Regulation of the Upstream Sector: A Comparative Study of Licensing and Concession Systems* (Edward Elgar 2015) 35. For further discussion, see ibid 20-35.

¹³ RD Bishop, 'International Arbitration of Petroleum Disputes: The Development of a *Lex Petrolea*' (1998) XXIII *Yearbook of Commercial Arbitration* 1131, also at: <http://www.trans-lex.org/131500/#toc_0>; TCC Childs, 'Update on *Lex Petrolea*: The Continuing Development of Customary Law Relating to International Oil and Gas Exploration and Production' (2011) 4 *J World Energy L Business* 214.

author's view,¹⁴ do not establish a comprehensive, systematic and coherent body of principles, rules, norms and considerations that are unique to oil and gas,¹⁵ being largely concerned with more generic foreign investment and contract law issues.¹⁶ This work focuses on other sources, specific to the oil and gas industry, that can potentially lead to the emergence of transnational petroleum law. These are: model contracts, industry usages, standards and guidelines promulgated by various industry organisations and associations. The existing scholarship presents general arguments about the existence of such sources, making sporadic references to them, but it has neither identified and presented them systematically nor revealed their precise content and mutual interaction. Similarly, an important question of whether these sources have grown into a well-organised system of governance has not been sufficiently addressed.

This work seeks to fill this gap, by focussing on the context specific to oil and gas and not on that of general fields of investment or contract law. It identifies and examines the main sources, governing the international oil and gas operations around the world, with a view to examining whether transnational petroleum law has emerged. The work explores the nature of governance in the petroleum industry and the extent to which the oil and gas industry is self-governed or governed by the state-made law. It assesses the degree of standardisation of governance to determine whether it is so high as to give rise to the emergence of *lex petrolea*.

The engagement in the debate about the existence and content of *lex petrolea* has significant practical consequences. If such a legal order, that is autonomous from those that are state-made, exists, its constituent sources, such as industry customs and usages, should arguably be binding on the relevant parties even if they are not part of the applicable state-made law (domestic or international). In other words, *lex petrolea* becomes part of a legal framework, governing the international petroleum operations. Even if, as this work will argue, *lex petrolea*

¹⁴ See, similarly, J Bowman, 'Lex Petrolea: Sources and Successes of International Petroleum Law', King & Spalding Newsletter, <<http://www.kslaw.com/library/newsletters/EnergyNewsletter/2015/February/article1.html>>.

¹⁵ Although, as shown in Childs (n 13), some cases address the sector specific issues (such as aspects of exploration licences, project management, conduct of petroleum operations, taxation, disposal of oil and gas, transfer of interests), this coverage is still highly fragmented and sporadic.

¹⁶ Such as expropriation and other investment law standards, validity of contract, damages and other remedies, force majeure.

does not exist as a mature legal order, it will be shown that the non-state made sources, such as model contracts, industry standards, usages and practices, are a vital part of the governing framework. It will be suggested that, whilst they do not give rise to an autonomous legal order, they constitute 'transnational layers of governance' that, in a very real sense, regulate the relevant parties' conduct, rights, obligations and liabilities.

Despite the significance of these non-state made sources, little has been done to examine where they are to be found, their content, role and inter-relationship. There is no methodology for understanding and dealing with them. Without such a methodology, much uncertainty will remain regarding the precise principles, rules and standards that govern the rights, obligations and liabilities of the parties to various legal arrangements made in the course of petroleum operations. This work therefore places particular emphasis on these sources, by defining and systematising them, identifying problems with their conceptualisation and application, presenting factors relevant for determining their precise legal significance. This discussion is intended to provide the basis for further research into methodologies for dealing with the non-state made sources of governance. The discussion is confined to the exploration for, development and production of oil and gas (upstream) and does not address other chains of operations, such as midstream or downstream.

2 Overview of the oil and gas industry: Operations, key players and the legal framework

Oil and gas are a major energy resource, accounting for approximately 60% of the world's commercial energy mix, and a key driver of world economy.¹⁷ The role of this natural resource and the petroleum industry will continue to be highly significant for the world's economy, economies of individual countries,¹⁸ standards of living and lives of people. A wide range of

¹⁷ See, eg, Organization of the Petroleum Exporting Countries (OPEC), *World Oil Outlook 2014*, <http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO_2014.pdf>, 53-63.

¹⁸ See, eg, <www.oilandgasuk.co.uk/knowledgecentre/economic-contribution.cfm>, for the explanation how the UK oil and gas industry contributes to the economy of the UK in terms of investments (with capital investment in the offshore oil and gas in 2015 amounting to £11.6 billion), budget income (with £2.2 billion

operations must be carried out to ensure that petroleum is found, extracted, processed, transported and that petroleum/petroleum products reach their ultimate consumer. All these operations are usually divided into three stages: 'upstream', covering exploration, development and production; 'midstream', covering processing, storage and transportation up to the point of sale; and 'downstream', covering refining, sale, marketing and distribution.¹⁹ This work will focus on the upstream operations. The key players within the industry include: the so-called 'majors' (major vertically integrated international oil companies (IOCs));²⁰ other vertically integrated companies operating on a smaller scale than the 'majors'; 'independent' companies, specialising on certain operations;²¹ oil and gas producing countries that often entrust the management of the petroleum sector to their national oil companies (NOCs).²² Many states and their NOCs have developed much experience and expertise in relation to the oil and gas sector. NOCs also control most of the world's undeveloped resources.²³ Nonetheless, with the oil and gas operations being highly risky, capital intensive and requiring much specialist expertise, equipment, technological know-how, most petroleum producing states are not able to carry out the exploration and production (E&P) operations on their own and need to involve IOCs. This factor and the fact that it is the state who is usually the owner of natural resources²⁴ have pre-determined the structure of a legal framework, governing E&P. At its core, lies a legal arrangement between the state and/or its NOC and an IOC(s) (known as a 'granting instrument'), such as a contract or a licence whereby an IOC is granted the E&P rights by the state. A granting instrument will be rooted in a state's legislative framework that regulates the petroleum operations and

paid in production tax in 2014-15), provision of jobs (with 330,000 jobs being supported), creation of supply chains and exports.

¹⁹ See, A Ovcharova, 'International Oil Companies' in EG Pereira, *The Encyclopaedia of Oil and Gas Law* (Globe Law and Business 2014) 187-188.

²⁰ These are the largest companies such as Exxon, Shell, Chevron, BP, Total and Conoco-Phillips.

²¹ See, eg, W Fritsch, 'Independent Oil Companies' in Pereira (n 19) 193-202; A Falcao, 'Service Companies' in Pereira (n 19) 203-208.

²² See, eg, JA Bucheb, 'National Oil Companies' in Pereira (n 19) 175-186.

²³ NOCs reportedly control more than 60% of the world's undeveloped resources, whilst IOCs control only around 7% (see P Roberts, 'NOC, IOC – Living in Perfect Harmony?' (2007) 4 OGEL; see also HM Qabazard, 'The Changing Role of the National and International Oil Company in a Geopolitical Context' (2007) 2 OGEL, suggesting an increasing involvement of NOCs and a correspondingly diminishing role of IOCs in the upstream sector, with the latter's adjusting their focus towards downstream).

²⁴ There are exceptions to this general position that can be found in countries, such as the United States, where private ownership of oil and gas is permitted.

sector. This legislative framework typically starts with the constitution,²⁵ followed by the specific petroleum law or code (and other relevant legislation relating, for example, to land, taxation, company law, health and safety or environmental protection), and detailed regulations.²⁶

The legal framework, described above, emanates from the state (a 'vertical' arrangement) and provides an underlying source of regulation of E&P. However, there are other important sources of governance. Once an IOC(s) has/have been awarded the E&P rights, it/they will have to enter into many other commercial transactions with each other and with other companies ('horizontal' arrangements). They include such arrangements as the area of mutual interest (AMI), joint bidding (JBA), joint operating (JOA), unitisation, lifting, service, confidentiality agreements, sale and acquisition of petroleum assets (farm-outs, exchange of assets, share and asset sales), decommissioning security agreements. These are commercial contracts, but, being concerned with or flowing from E&P, they are inextricably linked and must comply with the underlying vertical regime. It is the combination of a vertical regulatory regime, including a granting instrument, and the horizontal arrangements that constitutes the primary sources governing E&P.

3 National regulatory regimes: Internationalisation and convergence?

Throughout the development of the oil and gas industry, various granting instruments (also known as the petroleum 'arrangements or regimes') have evolved. Their evolution has been intimately linked with global political and economic developments, such as the changes in the world order generally occurring from the middle of the twentieth century when many countries, that had been under colonial rule or domination, gained their independence. Prior to that period, the petroleum regimes have been characterised by a striking imbalance of power between host states, most of which were under the colonial rule of western states,

²⁵ 'Constitutions can include both general provisions having an impact on petroleum activities and, in some, cases, petroleum-specific provisions' (K Talus, 'National Constitution' in Pereira (n 19) 209).

²⁶ See, eg, WT Onorato and JJ Park, 'World Petroleum Legislation: Frameworks that Foster Oil and Gas Development' (2001) 39 Alberta L Rev 72.

and IOCs. Those regimes, structured as what are now called 'old concessions',²⁷ reflected that imbalance, with IOCs acquiring ownership rights of the entire production, holding concessions of very vast areas (sometimes entire territories of countries), controlling the pace and extent of operations and paying very little to host states in area rentals or royalties and, rarely, taxes.²⁸ As the oil producing states gained independence, there had been a concerted move, culminating in the proclamation of the New International Economic Order,²⁹ to restructure the petroleum arrangements to assert state sovereignty and control over natural resources.³⁰ Over time, this move has resulted in different types of granting instruments, all of which are used in the world today. They all have their distinctive features.

A Licensing regime or a Modern Concession Contract (MCC) are structured very similarly to an old Concession, but their terms are much more favourable to the state. In this arrangement, a licensee/concessionaire has access to the entire production and normally acquires ownership of it from the point of well-head. The licensee/concessionaire is responsible for all operations, bears all risks, including the loss of its investments in case of non-(commercial) discovery. It is not reimbursed by the state for its work, but is intended to get reimbursement and remuneration from the production. The state normally has no access to production, unless: there is a right of the state or its NOC to buy some of it; the state/its NOC has an option to join in the operations (after commercial discovery); or there is an obligation on an IOC to sell some or all of its production in a domestic market.

In a Production Sharing Contract (PSC), the most popular arrangement amongst developing countries,³¹ an IOC acts as a 'contractor', hired by the state/its NOC to perform E&P. It does not have an entitlement to the production, as an IOC has in a Licence/MCC. The state is usually proclaimed as the sole owner at all times. However, the contractor is paid in oil/gas and ownership of production eventually passes to an IOC at some remote point (in space and

²⁷ See Z Gao, *International Petroleum Contracts: Current Trends and New Directions* (Martinus Nijhoff 1994).

²⁸ See K Hossain, *Law and Policy in Petroleum Development: Changing Relations between Transnationals and Governments* (Frances Pinter Publishers Ltd 1979) 1-31.

²⁹ The UN General Assembly Resolution 3201 (S-VI): 'Declaration on the Establishment of a New International Economic Order', 1 May 1974.

³⁰ See also UN General Assembly resolutions 1803 (XVII) on 'Permanent Sovereignty over Natural Resources', 14 December 1962, and Resolution 3281 (XXIX), 'Charter of Economic Rights and Duties of States', 1974.

³¹ See, eg, K Talus, S Looper and S Otilar, '*Lex Petrolea* and Internationalization of Petroleum Agreements: Focus on Host Government Contracts' (2012) 5 J World Energy L Business 87.

time), such as the point of export, delivery or sale. The payment takes the form of 'cost oil' to reimburse an IOC for the costs it has incurred and 'profit oil', which an IOC shares with the state/NOC in accordance with an agreed formula.

In a Risk Service Contract (RSC), an IOC also acts as a 'contractor', but its standing is further diminished as it is usually not entitled to get the production and is simply paid a cash fee for its services (structured as reimbursement and remuneration). The contractor may, however, have a limited (production) buy-back option. The diminution in an IOC's standing is also evidenced at the production stage, where the state/NOC normally takes over the operatorship and control of the operations. There are varieties of RSCs and one prominent example is a Buy-Back Contract (BBC) that was used in Iran. One key difference between the RSC and BBC is that, in the latter, the contractor is reimbursed and remunerated by means of a long-term sales agreement, whereby the contractor purchases the production at a discounted rate over a long period of time.³²

A Joint Venture (JV), whether contractual or equity, could be regarded as another alternative arrangement between a state/NOC and an IOC, but it is often used in conjunction with one of the above arrangements. For this reason, it is usually not seen as a stand-alone upstream arrangement: it is not a granting instrument in itself and has to be attached to some other arrangement.³³ Where a JV is used, any of the above arrangements become 'hybrid' because they no longer function in their 'pure' form. If a state/NOC is party to a JV with an IOC(s), it will have to contribute its share of costs and possibly even perform the operations if it becomes the operator in a contractual JV. In principle, the state may even bear the risk of loss of investment in the case of non-commercial discovery. However, because states are usually not willing to bear that risk, it is common for the state party to be 'carried through' ('carried interest') the exploration phase by other JV parties.

This brief survey shows that there are not many types of granting instruments, used around the world. Their menu and meaning are now standardised. The discussion so far has focused on their distinctive features, but the features they have in common by far exceed those that

³² See, eg, M Me, 'The Iranian Buyback Model and Its Efficiency in the International Petroleum Market — A Legal View' (2009) 7 OGEL, 2, 5.

³³ See, eg, EE Smith, JS Dzienkowski, OL Anderson, JS Lowe, BM Kramer, JL Weaver, *International Petroleum Transactions* (3rd edn, Rocky Mountain Mineral Law Foundation 2010) 492.

differentiate them. A few examples will suffice. Most arrangements are divided onto three phases — exploration, development and production — each of which due to its nature and purpose necessitate a number of typical provisions. In relation to all phases, granting instruments will typically require an IOC to prepare a plan, programme or budget (containing the minimum work expenditure and minimum work obligations) for the specified period or phase, which need to be approved by the state/state authority. Without such an approval, an IOC is not able to carry out the proposed operations. The vast majority of petroleum regimes invariably contain the ‘relinquishment’ provisions, according to which an IOC must or can choose to give up part of the area, in respect of which it has been awarded the E&P rights. The same can be said about the so-called ‘ring fencing’ provisions that do not allow an IOC to transfer or credit its obligations from one block or contract in respect of its obligations in another block/contract. Whenever the exploration works are performed and a discovery is made, the issue of whether the discovery is ‘commercial’ needs to be addressed. Whilst the regimes adopt different approaches, they often require an IOC to submit an appraisal programme for state approval, without which an IOC cannot proceed with the evaluation of the discovery. Concepts used in defining an IOC’s payment obligations — such as royalties, signature/information or production bonuses — are also well-known, standardised and widely used. Finally, all regimes contain some ‘local content’ and domestically oriented requirements, such as an IOC having to procure local goods and services, employ local personnel, invest in training, research and development, supply production to the domestic market and transfer technology.

This standardisation of domestic regulatory regimes can be explained by several reasons. First, the legal provisions are dictated by the industry specific commercial realities, purposes, logistics and functions of E&P.³⁴ Secondly, states observe each other’s experiences and often borrow ideas and legal innovations from other states, of which the wide adoption of the PSC is a good example. In a similar vein, states learn from the industry and IOCs’ experiences and

³⁴ If a discovery is made, it needs to be determined whether it is worth proceeding with the project (commerciality), necessitating the need for an ‘appraisal’ and to agree on rules on ‘commerciality’ and disputes arising therefrom. If there is a commercial discovery, facilities need to be installed to prepare the field for the extraction of petroleum, giving rise to the development obligations of an IOC. The production phase creates its own issues, such as the need for setting the production rates.

adopt practices³⁵ and legal solutions/structures from them. States are also influenced by and adopt the recommendations of international organisations, such as World Bank, in drafting their petroleum legislation.³⁶ Finally, much knowledge and expertise is disseminated through international law firms, private consultancy, events organised by international bodies and associations, legal academia and education.³⁷

It can be argued that high standardisation of the states' regulatory framework is a source and evidence of transnational petroleum law. After all, legal thinking, language, concepts and structures through which the oil and gas operations are understood, rationalised and governed by the state regulatory regimes worldwide are standardised to a very high degree. This creates internationalisation, harmonisation and convergence of governance, which are not too far away from the ideas of uniformity and universality, on which *lex petrolea* is arguably based. Nonetheless, it seems premature and, to an extent, incorrect to speak of *lex petrolea*, as far as state regulatory regimes are concerned. Despite their standardised nature, the body of rules and principles regulating E&P in a given state will, in most cases, be rooted in and derive their legal force and validity from the domestic law of that state. 'Law', 'governance' or 'regulation' are not just about legal structures, concepts and language, but more importantly about specific rules, terms and standards with which IOCs and the state party must comply. Whilst the structure, nature and purpose of many of the provisions are similar, the precise content and terms of each legislative framework and/or granting instrument will be specific to each state and its granting instrument. There is no universality of the specific rules and terms that ultimately govern E&P. That said, the standardisation of the states' regulatory regimes has created a common frame of reference for states, making their experiences more relevant to one another than ever before. That will only increase convergence and internationalisation of governance of the upstream sector worldwide.

On one level, however, the standardisation of governance has potential to contribute to the emergence of *lex petrolea*. As explained below, individual or collective experiences of

³⁵ See K Talus, 'Internationalization of Energy Law' in K Talus (ed), *Research Handbook on International Energy Law* (Edward Elgar 2014) 8-12.

³⁶ See Onorato and Park (n 26); Talus, Looper and Otilar (n 31) 190.

³⁷ Talus, Looper and Otilar (n 31) 191-192 ('Academia relies on a small number of professors who teach international upstream operations, thus the same course can be taught in the United States, Australia, United Kingdom, Angola or Portugal or elsewhere').

domestic regulatory regimes have the ability to evidence and generate some *specific* transnational standards, good practice or usages both for states and IOCs. The international petroleum industry experience arguably comprises all oil and gas producing countries, making each country's individual experience potentially relevant.

4 Model contracts: Reflection or development of standards, practices, norms?

The oil and gas industry has come a long way in standardising various horizontal arrangements. There are a number of industry associations and bodies that, since 1950s, have produced model or standard form contracts (SCs) that have been used widely around the world. These include the Association of International Petroleum Negotiators (AIPN),³⁸ American Association of Professional Landmen (AAPL),³⁹ the American Petroleum Institute (API),⁴⁰ Canadian Association of Petroleum Landmen (CAPL),⁴¹ International Association of Drilling Contractors⁴² and many others.⁴³ There are many benefits associated with promoting standardisation through SCs that include: an increased speed of negotiating and drafting of contracts; the saving of time and reduction of transaction costs that lead to an overall efficiency; improvement in understanding of transactions across the industry and increasingly shared expectations of the contracting parties, all of which can avoid or reduce disputes and improve commercial relationships; a continuous improvement in the quality of contracts.⁴⁴

³⁸ The AIPN is an independent non-profit professional membership association that supports international energy negotiators across the world. The AIPN consists of 'more than 4,500 members in more than 110 countries, representing numerous international oil and gas companies, host governments, law firms and academic institutions' (see <<https://www.aipn.org/Profile.aspx>>).

³⁹ See <<http://www.landman.org/about-aapl>>.

⁴⁰ See <<http://www.api.org/>>.

⁴¹ See <<http://landman.ca/>>.

⁴² See <<http://www.iadc.org/>>.

⁴³ For a much more detailed list and description, see AT Martin and JJ Park, 'Global Petroleum Industry Model Contracts Revisited: Higher, Faster, Stronger' (2010) 3 J World Energy L Business 4, 12-39.

⁴⁴ See further AT Martin and JJ Park, 'Global Petroleum Industry Model Contracts Revisited: Higher, Faster, Stronger' (2010) 3 J World Energy L Business 4, 8-12; T Martin, 'Model Contracts: A Survey of the Global Petroleum Industry' (2004) 22 J Energy Natural Resources L 281, 284-286.

The extensive use of SCs in any industry can be seen as creating an autonomous legal order, a form of industry self-regulation alternative to the state-made law. In a cross-border context, it has been argued that such extensive self-regulation creates a form of transnational law.⁴⁵ First, SCs provide a ‘framework ... of routine and custom, that establishes a social context in which the parties can understand their business relation and their mutual expectations’.⁴⁶ It is possible to go further and suggest that this social context helps form and enhance a sense of community in a given sector, an essential ingredient in the formation of an autonomous legal order such as *lex mercatoria* or *lex petrolea*. Secondly, sophisticated and complex commercial sectors, such as oil and gas, require highly detailed and sector-specific regulation, which, it can be argued, the state-made law is unable to provide whereas it is exactly such regulation that industry SCs provide. Thirdly, by providing detailed regulation, SCs, having potential to develop into industry customs, can be seen as ‘a system of default rules, like the implied terms of the common law and the supplementary laws of codified legal systems’.⁴⁷

SCs are widely used in the oil and gas industry and this line of argument can be applied in respect of it. Experienced industry practitioners argue that SCs, having gone through a thorough, well-documented, widely represented and peer-reviewed process, are ‘the most credible source of *lex petrolea*’.⁴⁸ However, there are a number of arguments that point to the need for caution in unreservedly treating SCs as evidence of *lex petrolea*, which implies the existence of uniformly adopted and applied benchmarks, rules, principles, standards of conduct and practices. First, SCs are only the starting point for drafting a contract,⁴⁹ which is ultimately tailored to its particular circumstances, the contracting parties’ needs and the law governing the contract.⁵⁰ Secondly, whilst leading associations, such as AIPN, attempt to ensure that these contracts reflect the existing industry practices,⁵¹ ultimately they are based

⁴⁵ H Collins, ‘Regulatory Competition in International Trade: Transnational Regulation through Standard Form Contracts’ in H Eidenmüller (ed), *Regulatory Competition in Contract Law and Dispute Resolution* (CH Beck – Hart – Nomos 2013) 122, 129.

⁴⁶ Ibid 123.

⁴⁷ Ibid 135. See also ibid 130, arguing that ‘transnational commercial law in standard form contracts strives to constitutionalize itself as an autonomous legal order, and in so far as it succeeds, it buttresses its claim to be regarded as law’.

⁴⁸ T Martin, ‘*Lex Petrolea* in International Law’ in R King (ed), *Dispute Resolution in the Energy Sector: A Practitioner’s Handbook* (Globe Law and Business 2012) 106.

⁴⁹ See Bowman (n 14).

⁵⁰ See T Hewitt, ‘Asian Perspectives on Model Oil and Gas Services Contracts’ (2010) *J Energy Natural Resources* L 331, 332.

⁵¹ Martin (n 48) 102-103.

on the views and experiences of their drafters.⁵² It cannot be assumed that every provision in every SC represents a universally accepted industry practice. Thirdly, not every SC necessarily contains an industry practice in it.⁵³ Some provisions in SCs or SCs in their entirety may simply reflect what the drafters thought were the best solutions to the problems at hand. However, with time, particularly if a SC relates to a transaction arising frequently, a wide usage of such a SC, by creating a framework for consistent treatment of similar transactions, may generate a wider industry practice, standard or usage.⁵⁴ Fourthly, which SC or which provisions in a given SC reflect or contain globally accepted industry benchmarks, practices or standards?⁵⁵ No systematic study, addressing this question, has yet been carried out. Without it, the argument that SCs are a source of *lex petrolea* will continue to encounter considerable scepticism. This argument will also have little practical value since for *lex petrolea* to work in practice, its content needs to be verifiable and identifiable.

These problems notwithstanding, an extensive usage of SCs in practice has undoubtedly produced much harmonisation in governance of transactions, entered into by oil and gas companies. At the very least, they provide the basis, structure, conceptual and legal language for most transactions around the world and common solutions to typical problems. As recently recognised by the Court of Appeal of New Zealand in respect of the 1995 AIPN Model Contract on Joint Operating Agreement (JOA), this model contract is ‘widely used as a starting point for such contracts’.⁵⁶ Although a SC is merely a starting point, it is likely that in most cases, the contracting parties will continue to operate within the framework and structure of that SC. Many of the concepts and solutions in a SC are likely to be retained. After all, parties resort to a SC in pursuance of one or more of the benefits mentioned above.⁵⁷ Otherwise, they would have used one of their own model contracts or drafted a contract ‘from scratch’.

In some cases, it can be asserted with some confidence that a SC has a prominent standing within the industry and reflects, to a significant degree, an international industry practice or

⁵² See AT Martin and JJ Park, ‘Global Petroleum Industry Model Contracts Revisited: Higher, Faster, Stronger’ (2010) 3 J World Energy L Business 4, 12.

⁵³ See, similarly, *ibid.*

⁵⁴ See *ibid.* 10.

⁵⁵ A challenge is even greater considering that industry practices are constantly evolving and so are SCs.

⁵⁶ *Todd Pohokura Ltd v Shell Exploration NZ Ltd; OMV New Zealand Ltd* [2015] NZCA 71, para. [9]; also noting that ‘model contract was one intended for use outside the United States, Canada and the United Kingdom’.

⁵⁷ See n 44 and the accompanying main text.

standard. A number of the AIPN's SCs can potentially be reflective of international industry practices, but the primary example would be the already mentioned AIPN Model JOA, which is now in its 2012 version⁵⁸ and its best known SC.⁵⁹ A JOA is a contract commonly entered into by companies,⁶⁰ who have been awarded a granting instrument by the state to pursue E&P. Companies enter into a JOA in order to share risks, learn from each other's expertise and technology and save costs by avoiding the duplication of personnel, facilities and equipment. A JOA defines the parties' rights and duties, allocates costs and liabilities between them. Amongst other things, a JOA provides for: the ways in which the operations are to be conducted by the operator and financed by the parties; how decisions are to be made; legal consequences of defaults and withdrawals by a contracting party; whether and how interests in a JOA can be transferred.

The AIPN model JOA has been developed for international use, except the United States, Canada, UK North Sea and Australia that tend to use model JOAs developed by their own industry associations. There is little doubt that this model reflects the basic scheme and features common to JOAs used around the world,⁶¹ such as: the entrusting the performance of operations to the 'operator' (usually, a party with the greatest participating interest), with all parties having to provide their financial contributions in accordance with their share in a JOA by responding to the operator's 'cash call'; the duties and liabilities of the operator; the decision-making process, normally conducted within the operating committee; the mechanisms of the protection of parties with minority interests, such as 'sole risk' or 'non-consent' options; issues relating to budgets and the operator's need to seek authority for expenditure (AFE) from other JOA parties; consequences of defaults and withdrawals; transfer of interests and changes in control of the parties; allocation of production. Many of its provisions are likely to reflect an industry practice. Take an arbitration case⁶² that concerned a provision, based on the AIPN model JOA, whereby a party, failing to make its

⁵⁸ See <<https://www.aipn.org/mcvisitors.aspx>>.

⁵⁹ See T Martin, 'Model Contracts: A Survey of the Global Petroleum Industry' (2004) 22 J Energy Natural Resources L 281.

⁶⁰ See *ibid*, rightly stating that a JOA is probably 'the most significant contract used in the upstream business'.

⁶¹ 'If you pick up a JOA for any project anywhere in the world, you tend to find much the same things': CP Thorpe, *Fundamentals of Upstream Petroleum Agreements* (CP Thorpe International Oil and Gas Specialists 2008) 44.

⁶² See ICC Case No 11663, 2003, Final Award, at: <<http://www.kluwerarbitration.com/CommonUI/document.aspx?id=ipn30341>>.

financial contribution in response to a cash call within sixty days, was required to forfeit and assign its participating interest to a non-defaulting party upon the receipt from the latter of a default notice. The tribunal appears to have treated this provision as ‘standard practice in the oil and gas industry’.⁶³

Still, the question of whether the same is applicable to other provisions of this well-known SC demands a separate examination of each clause. It is submitted that no assumption should be made about the existence of a particular industry practice or standard merely by virtue of a provision being included in a SC. For instance, some practitioners report that the use of AFEs, which were either informational or mandatory in the 1995 JOA model, is not a universally accepted industry practice despite their apparently wide usage.⁶⁴ It is also the case that most SCs undergo periodic revisions to reflect the changing needs, realities of the industry and experiences with the use of SCs in domestic jurisdictions. Even if SCs initially reflect industry practices, the latter are never static. The power of a SC to evidence the existence of a practice or standard must always be verified.

5 The search for industry standards and good practices

5.1 What is an industry standard?

Few areas of life and no industry today are free from the influence of pieces of technical advice, often referred to as ‘standards’.⁶⁵ There is no universal definition of a ‘standard’. It can be understood as a benchmark or a level of quality or attainment with reference to which something is evaluated or the compliance with which is desirable or expected.⁶⁶ Standards, often created by non-state bodies, organisations or associations, are usually voluntary and

⁶³ See n 56 above and the preceding accompanying main text.

⁶⁴ P Weems and M Bolton, ‘Highlights of Key Provisions — 2002 AIPN Model Form International Operating Agreement’, 2002, at: <http://www.kslaw.com/library/pdf/2002_joa.pdf>.

⁶⁵ See N Brunsson and B Jacobsson, ‘The Contemporary Expansion of Standardization’ in N Brunsson and B Jacobsson, *A World of Standards* (OUP 2002) 1 (‘standardization has had a dramatic influence on the way our modern society functions. Although some individual standards have little impact, the enormous and ever-growing total number of all standards certainly does’).

⁶⁶ See, eg, the definitions in Oxford dictionaries at: <<http://www.oxforddictionaries.com/definition/english/standard>>.

for this reason can also be described as ‘pieces of general advice offered to large numbers of potential adopters’.⁶⁷ Some leading standard setting organisations, such as the International Organisation for Standardization (ISO), define a standard as ‘a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose’.⁶⁸ Standards are usually expressly spelt out in a document and originate from a specific source.⁶⁹ Despite standards being voluntary, standardisation, being a rule-making activity, has become a form of governance or regulation.⁷⁰ In a globalised environment, standards acquire special significance. They enable people and companies to interact, co-ordinate their activities, facilitate communications between them.⁷¹ With globalisation come transnational markets and global standards can be an important instrument in creating such markets.⁷²

Against this background, there has been considerable push within the oil and gas industry towards the development and use of various standards. This is how a leading industry association, the International Association of Oil & Gas Producers (OGP), signals the significance of standards: ‘Standards are like DNA. They are the basic building blocks for all technology and economic systems’.⁷³ More specifically standardisation and the participation in this processes are perceived to have many benefits, including: improvement in quality of goods, services, processes; compatibility and efficiency; reduction in cost and time; improvement in environmental protection and people safety; sharing and dissemination of knowledge; technology transfer to developing countries and helping them develop their own technological capacity; reduced government regulations; opportunities for networking and learning.⁷⁴ The OGP states that the achievements in E&P would not have been possible ‘without standards for platforms, equipment, systems and other essentials’.⁷⁵ Similarly, standards are said to be vital for ‘the technical definition of oil and gas installations’ and good

⁶⁷ Brunsson and Jacobsson (n 65) 2.

⁶⁸ See <<http://www.iso.org/iso/home/standards.htm>>.

⁶⁹ Brunsson and Jacobsson (n 65) 13.

⁷⁰ See, eg, *ibid* 10; N Brunsson, ‘Organizations, Markets, and Standardization’ in Brunsson and Jacobsson, *A World of Standards* (n 65) 33.

⁷¹ See, generally, *ibid* 21-38.

⁷² *Ibid* 38.

⁷³ This quotation attributed to DE Purcell is prominently reproduced in OGP document, Value of Standards: Report 440, 2014, at <<http://www.ogp.org.uk/pubs/440.pdf>>.

⁷⁴ See *ibid*.

⁷⁵ *Ibid*.

standards ‘make exploration, development and operation easier in an increasingly more complex and globalised industry’.⁷⁶

The international oil and gas industry makes use of several thousand standards today.⁷⁷ Most of them have been developed by the industry organisations and associations, of which there are many,⁷⁸ but some notable examples include American Petroleum Institute (API)⁷⁹ or the Energy Institute (EI).⁸⁰ Another notable example of a non-governmental organisation that produces international standards for many industries, including oil and gas, is the ISO.⁸¹ There is a close linkage and interaction between various industry standards and the ISO standards, with considerable reciprocal influence between them. International inter-governmental organisations, such as International Maritime Organization or the International Electrotechnical Commission (IEC),⁸² also produce standards that are relevant to and used in the oil and gas industry.⁸³

These and many other bodies produce a great number of technical standards and it is impossible to reproduce them all here. The functions of standards can be categorised in different ways. Simply put, standards can: be concerned with the definition and classification; focus on the governing processes; or provide for what the relevant actors should have, such as an organisation having to have a certain structure or an individual having to undergo

⁷⁶ *OGP: Regulators’ Use of Standards*, Report No. 426, 2010, p. 3, at <<http://www.ogp.org.uk/pubs/426.pdf>>.

⁷⁷ See *ibid*.

⁷⁸ For a complete list, see *ibid* ii.

⁷⁹ API is the US ‘national trade association that represents all aspects of America’s oil and natural gas industry’ and maintains more than 500 standards and recommended practices. Many have been incorporated into state and federal regulations and increasingly are adopted by the International Organization for Standardization’ (<<http://www.api.org/about>>).

⁸⁰ ‘The Energy Institute (EI) is the professional body for the energy industry’ that ‘supports over 23,000 individuals working in or studying energy and 250 companies worldwide’ (<<https://www.energyinst.org/about-us>>).

⁸¹ ISO has membership of 163 national standards bodies (<<http://www.iso.org/iso/home/about.htm>>).

⁸² The IEC is ‘the world’s leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies’ (<<http://www.iec.ch/about/?ref=menu>>).

⁸³ The well-known IMO documents relevant to the oil and gas sector include: International Safety Management Code (ISM); The International Convention for the Prevention of Pollution from Ships (MARPOL); Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU); Safety of Life at Sea (SOLAS).

certification.⁸⁴ A more elaborate way⁸⁵ is to classify standards as ‘quality’,⁸⁶ ‘informational’,⁸⁷ ‘uniformity’,⁸⁸ ‘professional conduct and certification’⁸⁹ and ‘interoperability’⁹⁰ standards. There is no doubt that either of these two classifications captures the functions and roles of standards produced within the oil and gas industry. A more sector specific, but an extremely selective, list of standards within the oil and gas sector includes those in respect of: equipment,⁹¹ materials,⁹² planning, design, construction, installation, operation and maintenance of equipment, facilities, offshore platforms, cranes, petroleum measurement, health and safety and environmental protection.⁹³

These industry (and non-industry) documents provide for what the industry and international organisations consider the best or optimum benchmarks for various aspects of the oil and gas operations.⁹⁴ It is many of these standards that oil and gas companies, operating around the world, follow. Technically and practically, it is impossible to carry out operations without following an industry recognised standard. It is also very much in IOCs’ interests to follow them since, as explained, doing so brings about many benefits, such as cost and time saving as well as improved efficiency and quality of operations, processes and products. A number

⁸⁴ Brunsson and Jacobsson (n 65) 4-5.

⁸⁵ See Organisation for Economic Co-Operation and Development (OECD), Directorate for Financial and Enterprise Affairs Competition Committee, DAF/COMP(2010)33, ‘OECD Policy Roundtables: Standard Setting 2010’, at: <<http://www.oecd.org/daf/competition/47381304.pdf>>.

⁸⁶ ‘defin[ing] product characteristics related to safety, performance or efficiency’.

⁸⁷ ‘provid[ing] measurement and test of products and result in information that can be distributed to buyers, sellers and other users of a standard’.

⁸⁸ ‘seek[ing] to reduce the proliferation of product categories’.

⁸⁹ ‘set[ting] standards governing professional conduct and certification’.

⁹⁰ ‘ensur[ing] that two or more related products or processes will fit, operate or communicate with one another’.

⁹¹ API Spec 6A Wellhead and Christmas Tree Equipment is one the most frequently referenced standard in petroleum legislation of various petroleum producing countries.

⁹² See the ISO/TC 67 Materials, Equipment and Offshore Structures for Petroleum, Petrochemical and Natural Gas Industries and OGP, *Global standards used locally worldwide: List of ISO TC67 standards and their status with API, CEN and various other standards developing organisations*, at <<http://www.ogp.org.uk/pubs/4210.pdf>>.

⁹³ See n 83.

⁹⁴ This does not mean that every standard contains best practice. A standard may be promoted by a particular group, company or organisation, or preferred for the sake of uniformity of governance, even though the standard may not be the best (see, eg, N Brunsson, ‘Standardization and Uniformity’ in Brunsson and Jacobsson, *A World of Standards* (n 65) 148; N Brunsson and B Jacobsson, ‘The Pros and Cons of Standardization – An Epilogue’ in Brunsson and Jacobsson, *A World of Standards* (n 65) 171-172). There may also be an error in a standard, as in *MT Højgaard A/S v E.ON* [2015] EWCA Civ 407, where compliance with an internationally recognised standard for offshore wind turbines, containing an error, led to the failure of the turbines’ foundations.

of these standards are also incorporated in the legislation of petroleum producing countries⁹⁵ and/or in their respective granting instruments. By being so incorporated, standards are translated into requirements or legal obligations that IOCs operating in those countries must meet. Much of the technical and technological core of petroleum operations is thus governed, in a very real sense, by industry and non-industry standards.

Only widespread recognition of a standard within the industry worldwide can make a standard become part and evidence of the existence of the alleged transnational petroleum law. The question of which standards have achieved such recognition ought to be the subject of a separate and systematic investigation, but, in principle, some such standards can be identified. For example, the API Spec 6A Wellhead and Christmas Tree Equipment (and a very similar ISO 10423) and IMOs Code for the construction and equipment of mobile offshore drilling units have been said to be 'key standards for the oil and gas industry'.⁹⁶ Although such fragmented examples can be found, there are challenges to be overcome before precise answers to this question can be given.

One relates to a situation where there are several recommended benchmarks/standards, produced by different bodies that are used internationally. What criteria are to be used to decide which of them constitutes a global standard and what is the source from which these criteria originate?⁹⁷ Sometimes, it will be possible to find a common ground or at least a common framework in those standards and arguably that common ground or framework could provide a basis for developing a globally acceptable benchmark or framework. For instance, it has been argued in relation to environmental protection in the oil and gas operations that several general 'international best practices' are identifiable — environmental and social impact assessment, environmental management systems, environmental performance evaluation, environmental monitoring and auditing, and environmental reporting - despite the detailed aspects being different due to the multiplicity

⁹⁵ For a very thorough examination and detailed list of examples, see OGP (n 76).

⁹⁶ OGP (n 76) 58.

⁹⁷ OGP (n 76) 67: 'There are certainly also overlapping standards [such as] [s]tandards for pipeline transportation systems and offshore structures This makes room for the question of harmonization at an international level, provided the owners of the standards are prepared to cooperate. This matter should be studied further'.

of the potentially relevant standards.⁹⁸ But if the underlying benchmarks in several competing international standards are different, a choice may have to be made between the lowest and the most rigorous standard. It is probably easier to find the 'lowest common denominator' on a global level, considering a great variety of comparator countries involved, many of which are at different levels of economic, political, technological, and legal development. It may be for this reason that support thus far has been voiced in favour of this position.⁹⁹

Another challenge arises from differences in the designation of the industry recommended practices, that include 'standards', 'guidelines', 'specifications', 'workshop agreements', 'recommended practices', 'codes', 'bulletins' or 'technical reports' and others. These differences are not merely those of labelling, but are treated by some industry bodies, producing these documents, as different in terms of their nature, purpose, function and, probably, 'weighting'.¹⁰⁰ Many questions have to be tackled to determine the legal significance and relevance of all these documents. Which of them truly reflect a global industry standard? Do the differences in designation reflect an implicit 'hierarchy' of these documents in the sense that some carry greater weight than others? If so, with reference to what criteria is such an order to be developed? Can we simply rely on how a relevant industry body ranks and categorises them? Whilst answers to these questions can never be 'exact science',¹⁰¹ it is submitted that without at least a workable methodological approach to tackling these questions, an argument in favour of the existence of *lex petrolea* is not convincing. For *lex petrolea* to be viable and have real practical value, there must be a reasonable degree of order and certainty as regards its constituent sources and methods of identifying, interpreting and applying them. One will hardly find in the alleged body of *lex petrolea* any such methodology. Considering a multitude of standard setting bodies and standards produced by them, developing such an order should be a separate and systematic undertaking. What follows is general factors to be taken into account in answering the

⁹⁸ AS Wawryk, 'International Environmental Standards in the Oil Industry: Improving the Operations of Transnational Oil Companies in Emerging Economies', at: <http://ugandaoilandgas.com/linked/international_environmental_standards_in_the_oil_industry.pdf>.

⁹⁹ Ibid; T Hunter, 'Offshore Petroleum Facility Incidents Post Varanus Island, Montara, and Macondo: Have We Really Addressed the Root Cause?' (2014) William Mary Environmental L Policy Rev 585, 607.

¹⁰⁰ See n 106.

¹⁰¹ TW Wälde, 'International Standards: A Professional Challenge for Natural Resources and Energy Lawyers' [2003] OGEL 16.

questions, posed in this paragraph, identifying what constitutes a global industry standard or practice and in assessing its weight for the purpose of a legal analysis.¹⁰²

First, the reputation and authority of a standard setting body/organisation as well as the competence, experience and sphere of expertise of a team that developed a standard are relevant for assessing the quality of a standard and the extent to which it may reflect an industry best practice.¹⁰³ Secondly, not every industry standard is necessarily based on the ‘best’ practice.¹⁰⁴ For example, the considerations of standardisation and uniformity may outweigh those of quality in a particular case. Therefore, if it is shown that a particular document or practice is used with a high degree of *regularity*, that will strengthen the argument that such a document/practice constitutes an industry standard. Thirdly, how widely a document/practice is followed¹⁰⁵ is highly relevant to determining whether it can constitute a *global* industry standard. Whilst a threshold should naturally be very high, a universal usage of a standard can rarely, if ever, be demonstrated. Therefore, no more than ‘wide’ knowledge, acceptance and usage of an alleged standard by the relevant actors within the industry can be expected. Fourthly, the more widely represented and diverse the team developing a standard, the greater is the potential for the standard to have a global influence. Fifthly, an established standard that has been in use for a considerable time is likely to carry greater weight than a newly adopted standard. That said, a newly adopted standard may become a global industry standard if, for instance, it reflects or is based on an already existing practice. Even if not, a new standard can, by virtue of authority and expertise of a body/team that created it, become an industry wide standard, particularly where many industry players have promptly adopted and followed it. Sixthly, the way a standard setting body characterises and explains its documentation is a useful guide as to the purpose, nature and standing of a

¹⁰² These factors are also relevant for determining the extent to which a standard can claim to perform the regulatory function mentioned above (see n 70). See also Wälde (n 101) 16 (‘It is not only the intrinsic legal character...which decides on how much persuasive authority advocates or a tribunal should allocate to an international soft-law standard, but also a very factual criterium: To which extent has a particular standard/code been able to develop respect and a following? In the marketplace of ideas, it is not only the legal qualification which counts, but to which extent the market players accept or don’t accept a regulatory claim.’).

¹⁰³ See, similarly, Wälde (n 101) 15.

¹⁰⁴ There may even be uncertainty as to what best practice is, resulting in more standards (see Brunsson (n 70) 36). See further n 94.

¹⁰⁵ On what ‘following’ a standard can mean, see N Brunsson and B Jacobsson, ‘Following Standards’ in Brunsson and Jacobsson, *A World of Standards* (n 65) 127.

particular document and should be taken into consideration.¹⁰⁶ Seventhly, the standard setting scene is very dynamic. Arguably, the more frequently standards change or are revised, the greater is the challenge for them to amount to a globally used standard. It is those standards that have withstood the test of time and been accepted globally that will form part of *lex petrolea*. Finally, the dynamics of the standard creating process is relevant since an alleged standard may have emerged not because it reflects or contains a well-established or best practice, but because standard setting is used as a competitive tool by certain self-interested companies/groups¹⁰⁷ or because of ‘regulatory competition’, with an organisation trying to establish or promote itself as a leading standard setting organisation.¹⁰⁸ Given the possibility of an organisational or corporate self-interest, a finding that an *industry-wide* standard exists should not be made easily, reinforcing the point above¹⁰⁹ that a threshold for establishing a global industry standard should be a high one.

These factors are only a starting point for how industry standards are to be dealt with and a more systematic investigation is needed. Whether a particular document contains or reflects a global industry standard is to be examined on a case-by-case basis. Even if a particular industry document is found to be an industry ‘standard’ or ‘good practice’, what does this finding mean for the purpose of a legal analysis? Should one contracting party, such as the state/NOC in an upstream contract or an IOC in a commercial contract, be able to argue that the other contracting party has breached a contract because such a standard or ‘good practice’ has not been observed? This question is difficult if a contract or the applicable legislation do not contain clauses requiring the observance of ‘international industry standards’ or ‘good oilfield practices’ and if they do not amount to an industry ‘usage’ or ‘custom’. Put differently, are industry standards or practices, if found as such, binding in themselves? The answer should generally be ‘no’ because in such a case there is no legal basis

¹⁰⁶ Here is how API sees the differences between some of its documents: ‘a) Specifications: Documents that facilitate communications between purchasers and manufacturers. b) Recommended Practices: Documents that communicate proven industry practices. c) Standards: Documents that combine elements of both specifications and recommended practices. d) Codes: Documents intended for adoption by regulatory agencies or authorities having jurisdiction. e) Bulletins and Technical Reports: Documents that convey technical information on a specific subject or topic’ (OGP (n 76) 62).

¹⁰⁷ BT Jacobsson, ‘Standardization and Expert Knowledge’ in Brunsson and Jacobsson, *A World of Standards* (n 65) 47-48.

¹⁰⁸ ‘standards organizations seek to achieve a monopoly for their standards by establishing a monopoly for their standardizing authority’ (Brunsson (n 94) 150); also Wälde (n 101) 15.

¹⁰⁹ See n 105 and the paragraph containing the accompanying main text.

for implying a duty to comply with such standards or practices. It can, of course, be argued that ‘the traditional form of channelling trade practice into law is no longer a primary link’, that transactions, including those involving oil and gas, ‘require more complex, specific [industry] documentation and legal certainty’ and that ‘[c]odified private rule making... has widely replaced usages in this function’.¹¹⁰ This position is based on the view that today ‘standardization moves contract away from two-sided autonomous agreement to a specific form of private regulation’.¹¹¹

This line of thinking helps underscore the increasingly important role of industry standards. However, this does not mean that every industry standard creates legal obligations on an individual party. Such an approach would not be conducive to certainty and promotion of economic activity, which are key purposes of effective economic governance. The recognition of standards gaining a prominent place in a framework of sources, governing petroleum operations, should not dispense with a traditional contract/private law analysis that provides certainty and precision as to the contracting parties’ rights and obligations. A modern contract law framework will also determine the extent to which industry (and other) standards should influence the parties’ rights and obligations, providing a kind of hierarchy of such standards depending on their ‘legal weight’.

Taking the UNIDROIT Principles of International Commercial Contracts (UPICC) as a reference point seems highly appropriate since they claim to represent *lex mercatoria*,¹¹² of which *lex petrolea*, if it exists, is merely a specialist branch. Following the approach of the UPICC, if a standard amounts to a usage, the contracting parties will be bound by it.¹¹³ If not, being part of the relevant circumstances against which the parties’ contractual intentions and expectations have developed, a standard or a practice are still to be taken into account in contract interpretation.¹¹⁴ A well-developed contract law, such as the UPICC, thus provides an appropriate framework, albeit a general one, for determining the legal consequences,

¹¹⁰ D Wielsch, ‘Global Law’s Toolbox: How Standards Form Contracts’ in Eidenmüller (n 45) 78.

¹¹¹ Ibid 80.

¹¹² See the Preamble to the UPICC.

¹¹³ Art 1.9.

¹¹⁴ The UPICC require that in interpreting the parties’ intentions, ‘regard shall be had to all the circumstances’, including:...the nature and purpose of the contract; (e) the meaning commonly given to terms and expressions in the trade concerned; (f) usages’ (Art 4.3).

flowing from a document produced by some industry body, for the contracting parties. As shown below, the UPICC are also useful in terms of providing criteria for determining what constitutes a 'usage' or 'custom'. The binary distinction between usages, *binding* on the contracting parties, and other factors, *relevant* to contract interpretation, offers a starting point for ranking and conceptualising industry documents. The UPICC can strengthen the argument as to the existence of a viable *lex petrolea* by providing a coherent framework that has gained wide international recognition, and a consistent, albeit very basic, methodology for incorporating industry standards into the system of sources governing petroleum operations.

Thus, if an industry standard does not amount to a usage, it should be treated as a kind of 'soft law'.¹¹⁵ It forms part of the body of sources that signals general norms and expectations in the industry. However, even in this capacity, a standard can influence the legal consequences for the parties to a respective vertical or horizontal arrangement. With legislation and contracts often having to be interpreted against what is commonly accepted in the industry, these standards can influence such legislative and/or contract interpretation. At this point, it should be noted that there is a mutually legitimacy-reinforcing role between industry standards and court/arbitration decisions. The reliance on a standard in legal reasoning in a judicial/arbitral decision strengthens the standing of a document as an 'industry standard' and an authoritative source of governance.¹¹⁶ It may even confer an (almost) binding character on the standard if such cases are subsequently invoked as precedents.¹¹⁷ At the same time, courts and tribunals are likely to be open to relying on such 'industry standards' since the latter are often seen as 'neutral', based on 'technical expertise' and 'objectivity'.¹¹⁸ One challenge is to determine, in a particular case, the precise 'legal weight' of each of the potentially relevant standards for the purpose of legislative or contract

¹¹⁵ 'A norm is "soft" either when it is not part of a binding regime or when it is contained in a binding instrument but is not stated in obligatory terms' (Wawryk (n 98)).

¹¹⁶ See, similarly, Wawryk (n 12) 35.

¹¹⁷ See also *ibid.*

¹¹⁸ 'Lawyers will always look for a set of rules that is objective or at least can be presented as objective to avoid the accusation of filling open-ended principles in legal instruments with their subjective sentiment' (Wälde (n 101) 14).

interpretation, or both. The general factors, set out earlier in relation to industry standards,¹¹⁹ are also relevant in this context.

5.2 Industry standards as ‘hard law’

Increasingly, standards will be more than just a factor in legislative and/or contract interpretation. They can translate into strict legal obligations in a number of ways. One case, noted above, is where compliance with industry standards or practices is specifically required by the relevant legislation, such as the law/statute,¹²⁰ regulations or both,¹²¹ and/or by the relevant granting instrument (a contract/licence). Another is that of various generic clauses, invariably used in domestic laws and granting instruments¹²² and commercial contracts.¹²³ These clauses require compliance with ‘petroleum practices recognised by the international petroleum industry’, ‘good oilfield practices’ (GOPs) or the need to perform obligations in ‘an efficient’, ‘prudent’ or ‘workmanlike manner’. Non-compliance with such practices constitutes a breach of an instrument, containing such clauses. Despite their wide usage, their precise meaning is elusive, mysterious and uncertain. There is no doubt though that a vast pool of constantly proliferating and changing industry (and non-industry) standards is a major source for determining what a ‘good oilfield practice’ and similar concepts mean in the particular circumstances.¹²⁴ Therefore, it is clear that due to a broad scope of such clauses and their nearly universal usage, a substantial part of the legal framework governing

¹¹⁹ See nn 102-109 and the accompanying main text.

¹²⁰ See, eg, art 25 of the Law of the Republic of Kazakhstan ‘On Agreements (Contracts) on Production Sharing in the Course of Execution of Offshore Oil Operations’, No 68-3, 8 July 2005 (‘standards and norms accepted in international practice’), available in Russian at: <<http://kazakh.oilgaslaw.ru/free/law1.pdf>>; Arts 7, 27, 37 of the Oil and Gas Law of the Kurdistan Region — Iraq, Law No (22) — 2007, referring to ‘good oil field’ or ‘good industry’ practice, available at: <http://cabinet.gov.krd/uploads/documents/Kurdistan%20Oil%20and%20Gas%20Law%20English__2007_09_06_h14m0s42.pdf>.

¹²¹ For detailed references to various specific industry standards in domestic regulatory regimes, see OGP (n 76).

¹²² See, eg, the Measurement Model Clause in the UK Petroleum (Production) (Seaward Areas) Regulations 1988: stating that ‘[t]he Licensee shall measure or weigh by a method or methods customarily in good oilfield practice...’.

¹²³ For a similar view, see Bowman (n 14).

¹²⁴ But see De Jesús (n 4) 40, apparently ranking good oilfield practices as lower than standards and also stating that such practices ‘over time will become industry standards leading to the creation of new transnational rules’.

upstream petroleum operations, not least the state-made law, is *premised* and *dependent on* the existence of international industry practices and standards.

These generic clauses, GOPs and the like, represent a common thread running through both vertical and horizontal layers of governance regardless of a jurisdiction where the operations take place. Regarded by some experienced industry practitioners as ‘the common law of the oilfields’,¹²⁵ GOPs certainly provide a strong argument in favour of the existence of transnational petroleum law. In fact, extensive references to them (and to similar sources such as ‘international petroleum industry practices’) in vertical and horizontal arrangements arguably evidence that all industry players, including states and their NOCs, recognise the existence of transnational petroleum law or, at least, of a transnational source of governance. Determining the meaning of GOPs and similar clauses is critical for the very argument as to the existence of *lex petrolea*. If they are definable and workable, it is difficult not to agree that these clauses have grown into a truly transnational layer of governance, given their valuable function of governing and enabling oil and gas operations and ability to produce distinctive legal consequences; and vice versa, if their content and meaning cannot be identified, that would undermine both their practical value and the argument as to the existence of *lex petrolea*. From a practical angle, given a wide usage of such clauses, a reasonable degree of clarity and/or guidance as to their meaning is essential for the viability and effectiveness of all legal arrangements, incorporating them, and all the players affected by these arrangements.

What are the sources from which this meaning can be derived? The starting point is the state’s legislative framework and granting instruments, which reflect, to a degree, the existing international industry practice.¹²⁶ Definitions in them tend to be rather broad and remarkably similar. An example of a concise definition is provided by the Australian Offshore Petroleum and Greenhouse Gas Storage Act 2006, where GOPs are defined as ‘all those things that are generally accepted as good and safe in: (a) the carrying on of exploration for petroleum; or

¹²⁵ M Bunter, ‘World-Wide Standards of Good Oilfield Practice — The Impact of the Blow-Out, Deaths and Spill at the BP Macondo Well, MC252/1-01, US Gulf of Mexico’ (2013) 2 OGEL 2.

¹²⁶ See, eg, the statement by the National Agency of Petroleum, Natural Gas and Biofuels of Brazil (ANP) to the effect that a model concession contract was partly developed to reflect ‘international practice and experience’ (<http://brazilrounds.gov.br/ingles/contratos_e_editais.asp#modelos>).

(b) petroleum recovery operations'.¹²⁷ A more elaborate definition is exemplified by the Oil and Gas Law of the Kurdistan Region — Iraq, where GOPs are understood as aiming to ensure:

(1) conservation of Petroleum resources, which implies the utilization of adequate methods and processes to maximise the recovery of hydrocarbons in a technically and economically sustainable manner, with a corresponding control of reserves decline, and to minimise losses at the surface;

(2) operational safety, which entails the use of methods and processes that promote occupational security and the prevention of accidents; and

(3) environmental protection, that calls for the adoption of methods and processes which minimise the impact of Petroleum Operations on the natural environment.¹²⁸

All the said aspects — conservation of resources, safety and environmental protection and other 'good practices' in E&P — thus constitute the core meaning of GOPs. Each country's experience in respect of defining and developing GOPs can potentially inform and be drawn upon by other countries if the issues and circumstances, to which GOPs relate, are comparable. There is much room for cross-fertilisation of ideas and for one country's experience to influence the interpretation and application of legislation and granting instruments, incorporating GOPs and similar concepts, in other countries. This may be particularly so where state authorities in some country have developed detailed guidance as to the meaning of GOPs¹²⁹ or where there is a body of case law addressing GOPs.¹³⁰ It is worth repeating that the very fact that the vertical and horizontal arrangements so often refer to

¹²⁷ S. 7.

¹²⁸ Art 37 (n 120). For very similar definitions, see, eg, art 1.1, Model Production Sharing Contract under the Petroleum Act, Democratic Republic of Timor-Leste: <<http://www.resourcegovernance.org/sites/default/files/Model%20Production%20Sharing%20Contract.pdf>>; art 1.2.24 of the Concession Agreement for the Exploration, Development and Production of Oil and Gas, Federal Republic of Brazil, Ministry of Energy and Mines, 2008: <<http://www.eisourcebook.org/cms/Brazil,%20Model%20Concession%20Agreement,%20ANP%2010th%20Rnd,%202008.pdf>>.

¹²⁹ See, eg, UK Oil & Gas Authority, *Guidance Notes for Petroleum Measurement: Issue 9.2 For Systems Operating under the Petroleum (Production) Regulations*, 2015, at: <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/465702/DECC_Guidelines_-_Issue_9.2.pdf>; T Hunter, 'Licensing and Concession System for Developing Australia's Conventional Petroleum Resources' in Hunter (n 12) 96-97, discussing such guidelines issued by the authorities in Australia.

¹³⁰ See, eg, a Canadian case, *P Burns Resources Ltd v Locke, Stock & Barrel Co Ltd*, 2014 ABCA 40 (CanLII) [20], [23]-[27], where expert evidence, apparently accepted by the court, as to a GOP in respect of low producing well was discussed. See also n 118 above.

industry GOPs and similar concepts is an acknowledgement by all the actors that such practices exist and are often *universal* and *transnational* in character, transcending geographical and legal borders.

Other sources from which the meaning of GOPs can be derived is a body of specific industry standards and SCs, both of which have been discussed. Yet another source is a body of cases, decided either in a particular jurisdiction or in international arbitration,¹³¹ that concerns concepts similar to GOPs.¹³² There is an intimate link between many of them and they are sometimes used inter-changeably¹³³ or defined with reference to one another.¹³⁴ Thus, whether the operator has committed gross negligence or acted as a 'prudent' operator, as is often required by petroleum contracts, may reveal considerations that can help develop and inject meaning into GOPs. In one case,¹³⁵ involving a joint venture between a state organisation and IOC, effectively acting as the operator, the state party argued that the operator had failed to act as prudent operator in making exploratory drillings and consequently the operations ought to be regarded as incompetent and negligent. The tribunal found that proceeding with the gas flow test 'without the use of a packer'¹³⁶ and without calculating the salt pressure in complex and dangerous wells was an imprudent action. At the same time, the use of lost circulation materials (LCMs)¹³⁷ was deemed to be 'prudent under the prevailing circumstances where [the operator] experienced lost circulation'. It may well be that 'good' or 'bad' practices can be inferred from findings such as these. Similarly, non-compliance with GOPs can influence the resolution of whether the conduct a party, such as the operator in a joint operating/joint venture agreement, amounts to 'gross negligence', in

¹³¹ But see n 14 and the accompanying main text.

¹³² See the sentence in the main text accompanying nn 123-124.

¹³³ See SW Amaduobogha, 'The Legal Regime for Petroleum Activities in Nigeria' in Hunter (n 12) 282-283.

¹³⁴ M Pittmanm, J Hesje and A Lamoureux, 'Gross Negligence in Canadian Energy Contracts' (2013) 51 Alberta L Rev 283, 309, referring to a joint venture agreement where gross negligence was defined as 'a marked and flagrant departure Good Industry Practice...'; similarly, Thorpe (n 61) 51 ('Wilful misconduct is usually defined as the deliberate or reckless disregard of the terms of JOA or good oilfield practice').

¹³⁵ *Joint Venture Yashlar (Turkmenistan)/Bridas SAPIC (Argentina) v The Government of Turkmenistan*, ICC Arbitration, Interim Award No 9151/FMS/KGA, 8 June 1999.

¹³⁶ Packer is a 'device that can be run into a wellbore with a smaller initial outside diameter that then expands externally to seal the wellbore' (<<http://www.glossary.oilfield.slb.com/en/Terms/p/packer.aspx>>).

¹³⁷ 'Solid material intentionally introduced into a mud system to reduce and eventually prevent the flow of drilling fluid into a weak, fractured or vugular formation' (<<http://www.glossary.oilfield.slb.com/en/Terms/l/lcm.aspx>>).

which case the operator's liability will typically be greater than that in the absence of gross negligence where it is limited to its participating interest in a JOA/JV.¹³⁸

6 International customs and usages: do they exist and what role do they play?

Another source of *lex petrolea* is industry customs and usages. It has been argued here that their legal effect should generally be more powerful than that of other industry standards, practices, documents and sources. If proved, a usage should be binding on the parties to a given petroleum contract, creating obligations dictated by a usage. A usage can produce other legal consequences, such as providing the sector-specific context against which contracts,¹³⁹ granting instruments and even legislation should be interpreted. Recognising a usage as a source of transnational petroleum law gives rise to a number of difficulties, conceptual and practical.

First, with reference to what criteria and in what legal order should the existence and validity of a usage be established? In the context of the state-made law, whether domestic or international, the validity of a usage derives either from being treated as an implied term of contract or from a relevant statutory provision.¹⁴⁰ To some proponents of *lex petrolea*, this way of explaining a normative force of a usage is not acceptable since he/she would probably argue that this normative force derives from the very autonomy of *lex petrolea*.¹⁴¹ Even if so, where are the precise criteria for determining what constitutes a usage to be found? Without any source evidencing consensus within the international petroleum industry on this point,

¹³⁸ See n 134.

¹³⁹ See, eg, *Creson v Amoco Production Co*, 10 P 3d 853, 857 (NM Ct App 2000) ('The question posed by Article 6.3 [of the unit agreement] is whether, when the sale of the gas occurs at a place other than the wellhead, Defendants could make post-wellhead cost adjustments in valuing the "net proceeds . . . at the well." Relying in part on expert testimony, the trial court determined that the phrase "net proceeds . . . at the well" had a long standing and unambiguous meaning in the oil and gas industry in computing royalty settlement or payment'). See also DE Pierce, 'Defining the Role of Industry Custom and Usage in Oil & Gas Litigation' (2004) 57 SMU L Rev 387, 401-402, 421-422.

¹⁴⁰ See Wielsch (n 110) 77.

¹⁴¹ There is a degree of circularity in this line of reasoning since the autonomy of *lex petrolea* is justified partly with reference to its consisting of usages. At the same time, the normative force of usages would, on this view, be explained with reference to the autonomy of *lex petrolea*.

there is nothing pointing to an answer. The only practical and conceptually sound approach is to rely on a framework provided by an international instrument, such as the UPICC that define a usage as one ‘that is widely known to and regularly observed in international trade by parties in the particular trade concerned except where the application of such a usage would be unreasonable’.¹⁴² The definition is not free from difficulties, such those concerning the meaning of ‘widely known’ and ‘regularly observed’.¹⁴³ These difficulties are not insurmountable, since some guidance is given by other international instruments, such as the Convention on Contracts for the International Sale of Goods (CISG) that inspired the UPICC’s definition of a usage. For example, according to some cases decided under the CISG the requirements of ‘widely known’ and ‘regularly observed’ are met if a usage is recognised by the ‘majority’ of business persons in the same sector.¹⁴⁴ This is a sound approach because, as noted, universality of knowledge and observance can hardly be proved.

Even with such guidance being available, establishing a usage is not and should not (given the gravity of legal consequences it produces) be an easy task. Demonstrating knowledge of an alleged usage and its observance by the ‘majority’ of the industry players requires a substantial amount of evidence, empirical and otherwise.¹⁴⁵ There is also a question of what sources are relevant for collecting such evidence. It is suggested that all sources discussed above — the experience of state regulatory regimes, including granting instruments, SCs, industry standards and documentation, arbitration awards and judicial decisions — have potential to provide such evidence, which shows a close linkage between them all.

Turning to cases as possible evidence of usages, there is little evidence that usages are great in number or that they play an active role in defining the parties’ rights and obligations in the course of operations and in contractual disputes. Whilst some case law has developed in certain domestic jurisdictions, there is hardly any evidence of usages that can claim global

¹⁴² Art 1.9(2) UPICC.

¹⁴³ There can be other criticisms of this definition. See, eg, R Goode, ‘Usages and Its Reception in Transnational Commercial Law’ (1997) 46 ICLQ 1, 10, arguing that it fails to ‘distinguish usage observed as binding from usage followed purely as a matter of habit, courtesy or convenience or simply a siren to accommodate one’s business counterparty voluntarily where this is not detrimental to one’s own interests.’

¹⁴⁴ See Supreme Court, 2 Ob 191/98x, 15 October 1998 (Austria), <<http://cisgw3.law.pace.edu/cases/981015a3.html>>; Supreme Court, 10 Ob 344/99g, 21 March 2000 (Austria), <<http://cisgw3.law.pace.edu/cases/000321a3.html>>.

¹⁴⁵ See, similarly, A Metzger, ‘Standard Form Contracts as Private Law Regimes’ in Eidenmüller (n 45) 112-113.

recognition. It cannot be ruled out that cases within a domestic legal system can evidence the existence of a global usage. A usage can often be expected to originate locally, but due to the international influence of a jurisdiction and/or due to the economic strength of a country, of commercial players originating therefrom and/or their active involvement in international operations, a local usage can then acquire global recognition.¹⁴⁶ Whether a usage established in a domestic jurisdiction has become global is to be investigated on a case-by-case basis. On the whole, the role of usages in governing petroleum operations appears very limited. This may reflect an overall trend where usages, as sources of governance, are in decline as their function of ‘channeling [industry] practice into law’¹⁴⁷ is increasingly taken up by the proliferating industry SCs, standards and similar documents.¹⁴⁸ If this is true, the argument relying on usages as a source and evidence of *lex petrolea* is hardly convincing.

7 Conclusion

It is now time to address the question of whether the sources, emanating from the industry, are so widely spread and standardised as to give rise to a transnational petroleum order, *lex petrolea*. The first point is that the oil and gas operations are not regulated entirely by the industry sources. Far from it, the essential regulatory framework and roadmap, setting the structure and content of E&P, is set by the state through its legislation and granting instruments. States have a lot of mechanisms at their disposal to control most aspects of E&P on their territory, although this ability depends on the nature of a granting instrument and many other factors, such as the dynamics of the bargaining weight, levels of commercial, legal, technical expertise and experience of the relevant state/NOC and IOCs. The state’s legal framework, including its granting instrument, set the basic source of governance of E&P, with

¹⁴⁶ By analogy, see n 79. See also, in sales law, MJ Bonell, ‘Article 9’ in CM Bianca and MJ Bonell, *Commentary on the International Sales Law* (Giuffrè 1987) 108; PX Bout, ‘Trade Usages: Article 9 of the Convention on Contracts for the International Sale of Goods’, at: <<http://www.cisg.law.pace.edu/cisg/biblio/bout.html>>; ‘Guide to CISG Article 9’, at <<http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-09.html>> (with further references).

¹⁴⁷ See Wielsch (n 110) 78.

¹⁴⁸ Ibid.

which every other horizontal arrangement must comply. This state of affairs will not change since states will not relinquish their control over this strategic natural resource.

At the same time, high levels of standardisation of governance, the proliferation and extensive use of the industry documents, governing various aspects of E&P, and the emergence of a common legal and commercial language and concepts are an undeniable reality. This reality is seen by many as reflecting the emergence of *lex petrolea*, autonomous from the state legal regimes. The acceptance of this claim naturally shifts the focus to the meaning of *lex petrolea* and to counter-poising *lex petrolea* with the state-made law. This perspective is premature and unhelpful.

It is premature because *lex petrolea* itself has not matured. Whilst it does not need to be complete, it needs to be viable, workable and, ultimately, practically useful. Otherwise, what is the value of insisting on its existence? To be viable and workable, it must possess a reasonable degree of order, clarity and certainty as regards its constituent sources and the relationship between them. The use of *lex petrolea* is sometimes advocated because it can provide greater sector-specific and detailed resolution of issues and problems. As shown, it is precisely the detailed content of and methodologies for working with the industry sources that have not yet been developed. Without these ingredients, *lex petrolea* cannot become an effective and predictable transnational legal order. This work has underscored the difficult areas, pertaining to the industry sources that require further research, and presented a general framework for the interaction of these sources and determination of their content.

Counterpoising *lex petrolea* to the state-made law is unhelpful. The latter lies at the core of governance of the petroleum sector and the focus should be on the synergy between the two. This synergy is complex but mutually helpful and reinforcing. The state-made law and its experience in a relevant jurisdiction can exert much influence on the alleged *lex petrolea*. First, the industry SCs are revised in the light of case law concerning these SCs and their use in various jurisdictions. Secondly, the experiences of state regulatory regimes have potential to generate, individually or collectively, global standards, producing 'transnational law'. Thirdly, judicial decisions that engage with industry standards or practices can evidence the

latter's existence and explain their role and content.¹⁴⁹ Even more importantly, such court decisions legitimise and promote industry standards and practices as sources of governance, underscore their authority and legal significance and can even make them legally binding through the system of precedent. In a similar vein, judicial decisions from domestic jurisdictions explain the commercial, operational and technical context, define technical terms and clarify understandings and expectations within the industry.¹⁵⁰ Such terms, understandings and expectations may have little to do with or may not amount to 'standards', 'practices' or 'usages'.¹⁵¹ Nevertheless, because they often concern technical or commercial aspects of operations, not legal issues emanating from a particular legal tradition, they can be highly relevant to an understanding and interpretation of vertical and horizontal arrangements, regardless of a jurisdiction in which these arrangements take place.¹⁵²

The industry sources, in turn, are also critical for a state's legal framework. To facilitate and effectively govern E&P, the state's legal framework must be designed with an understanding of the industry practices, experience and expectations. The state regulatory regimes can also

¹⁴⁹ See, eg, the UK case *Ithaca Energy (UK) Ltd v North Sea Energy (UK) Ltd* [2012] EWHC 1793 (QB), that concerned the question was whether the well was an 'appraisal well'. The question was important because a non-consent option in a JOA could only be exercised in respect of an appraisal well. The court held that an oil field appraisal activity was not confined to the phase, which followed the discovery but preceded the submission of the development programme. This meant that, as a 'matter of industry practice', what constituted an 'appraisal well' could not be defined solely with reference to the chronological stage where an appraisal activity had taken place ([44]).

¹⁵⁰ See, eg, the US case *Musser Davis Land Co v Union Pacific Resources*, 201 F 3d 561, concerning whether the use of the term 'exploration' in a lease conferred on the lessee the right to conduct seismic works. Answering in the affirmative, the decision defines the exploration (as including 'aerial and geophysical surveys, geological studies, core testing and drilling test wells') and geophysical operations (as involving 'the detection and measuring subsurface structures', with the seismic method obtaining this information 'by measuring the reflection, refraction, and velocity of shock waves created by explosive charges set off in holes in the earth') and finds that the latter is 'the preeminent method of mineral exploration currently employed in the industry'.

¹⁵¹ Some cases may reflect solutions or approaches that do not necessarily amount to an established practice/standard, but a 'general preference' within the industry. For example, some US cases suggest that so far as joint venture (eg, JOAs or unitisation) or balancing agreements are concerned, where one party under-lifts and another over-lifts, re-balancing of production is generally preferred in the industry (see *Pogo Producing Co v Shell Offshore, Inc*, 898 F 2d 1064, 1066-1067 (5th Cir 1990); *Doheny v Wexpro Co*, 974 F 2d 130, 133-134 (10th Cir 1992)).

¹⁵² See the UK case, *Vitol E & P Ltd v Africa Oil and Gas Corp* [2016] EWHC 1677 (Comm), taking the position that there is a "natural" interpretation of the words "commencement of drilling", which means 'the physical penetration of the seabed i.e. spudding' ([38]). Whilst the 'natural meaning' is a factor in contract interpretation under English law, decisions such as this can influence how the precise meaning of such technical concepts are understood within the industry as a whole. This point is demonstrated by this case itself, where the court engaged extensively with the interpretation of analogous concepts in cases, decided in the US, whilst acknowledging that they were not 'binding authority' on a UK court (see [41]-[48]).

expressly incorporate specific industry standards or can do so implicitly by using generic clauses, such as GOPs and the like. For these reasons, the state regulatory regimes are often dependent and premised on the existence of industry standards and practices.

It is submitted therefore that rather than advocating the autonomy of the alleged *lex petrolea* from the state-made law, it needs to be recognised that the two are vitally important to and mutually dependent on each other. It has been shown that *lex petrolea* is not yet a mature legal order. Its sources are best characterised as *transnational layers of governance* of the international E&P operations. Other layers consist of the state regulatory regimes and other applicable areas of the law, such as international investment or environmental law, various domestic or international regimes that may govern individual arrangements in the chain of arrangements in E&P.