Decommissioning in the Middle East
Opportunities and Challenges

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Introduction
With a significant number and concentration of older oil and gas facilities, decommissioning is becoming a hot topic in the Middle East. While jurisdictions vary, many producing countries in the region do not yet have mature legislative and regulatory structures for decommissioning and older oil and gas contracts do not address the issue in detail. This creates the potential for uncertainty regarding the allocation of decommissioning liabilities, the standards applicable to the abandonment of infrastructure and the handling of residual long-term liabilities. Bearing in mind the potential severity of civil and criminal sanctions for breach of environmental laws, it is of paramount importance that companies and their partners understand the extent of their responsibility for decommissioning and abandonment liabilities and obligations.

This article discusses the technical, commercial and legal challenges that industry players are facing in the region (with reference to the authors’ first-hand experience) and which will become more urgent as installations approach their end of life. It discusses the types of contractual, legal and regulatory regimes currently in place in the Middle East and, drawing from more mature jurisdictions such as the UK, the advantages and disadvantages of alternative approaches to regulating decommissioning.

Finally, the article looks to the future by assessing the challenges and opportunities for upstream companies and consultants and explores some of the potential ways to achieve a satisfactory outcome for all stakeholders.

Oil and gas in the Middle East
The presence of oil and gas in the Middle East region has been known since antiquity. More than 4,000 years ago, asphalt was used in the construction of the walls and towers of Babylon. Commercial exploitation is of course much more recent. Exploitable quantities of oil were first discovered in the region in 1908. New hydrocarbon discoveries are still being made and the industry will continue to be a

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2 There is no settled definition of which countries comprise the Middle East, which we recognise is not an amorphous region, but one made up of distinct and unique countries. For the purposes of this article, we have drawn on examples from a number of countries commonly considered to be part of the Middle East, such as the countries of the Gulf Cooperation Council, Iraq, Yemen, Egypt and others.
significant part of the economic future of the region.

However, much of the infrastructure used for the exploitation of hydrocarbons is ageing and will shortly come to the end of its useful life. Such assets will need to be retired and the land or marine areas restored to a condition that allows future beneficial use. Decommissioning is the natural end of the life cycle of an oil and gas field; it may be delayed but it cannot be avoided. The need to retire this infrastructure may even accelerate as the region adopts new sources of energy.

The technical and commercial landscape

Existing oil and gas infrastructure in the Middle East is considerable. Although recent numbers are lacking, it has been estimated that there are around 700 facilities that will need to be decommissioned in the Middle East. The industry has to rely on estimates because some installations pre-date modern record keeping.

In addition, many fields have been more prolific than expected. As a result, a lot of infrastructure still in use has already reached the end of its original design life. Age degrades infrastructure, but declining production means investment in new infrastructure may not be viable. This presents governments and oil companies with a conundrum: how to maximise production whilst operating safely.

There are strong economic incentives not to retire assets, as the longer a production facility remains available, the more opportunity there will be for adjacent fields and pools of resource to be exploited. Regulators across the world recognise the desirability of maximising opportunities and the inter-dependency of oilfield operations. One of the prime policy objectives of the UK regulator is to maximise economic recovery of UK petroleum and the regulator has imposed a duty on owners of infrastructure to consider the interests of third parties.

In addition, large-scale decommissioning can be very expensive. Eight international oil companies have Asset Retirement Obligations (AROs) on their balance sheets of more than $10 billion each and, since 2010, the AROs of the seven largest international oil companies have increased year on year. Estimating future costs is inherently risky, as the industry does not know how technology or standards will develop so, whilst decommissioning is clearly a critical issue, it is difficult to tell whether sufficient or excess capital is being set aside.

The challenge therefore is clear: to produce safely and efficiently for as long as possible and to have sufficient financing to dispose of the infrastructure responsibly and return the land or sea to future legitimate use. This creates a three-dimensional

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4 In 2013, the Secretary of State appointed Sir Ian Wood to review the UK upstream offshore oil and gas industry. The key recommendation of the subsequent Wood Report was that maximising economic recovery should be the overarching principle of the new approach to the UKCS. This recommendation was adopted as strategy by the UK government and made binding on a number of stakeholders, such as holders of offshore petroleum licences, operators and owners of offshore installations. See also our later comments regarding the establishment of a new regulator.

challenge for policy makers with cost, risk and governance/legislation on the separate axes.

The regulatory landscape

In addition to the technical and commercial challenges, companies must navigate the legal and regulatory requirements for decommissioning activities.

Allocation of decommissioning liabilities is an area of tension between governments and oil companies. Governments want the companies that benefit from petroleum operations to be liable for the costs of decommissioning infrastructure used during such operations. On the other hand, oil companies want to ensure that their liability is proportionate to the benefit they have received from such infrastructure and for other beneficiaries to contribute their fair share. Oil companies also want to be able to cost-recover decommissioning expenses during production pursuant to the terms of the relevant government contract.

Contract terms

The regulatory landscape includes specific laws and regulations relating to the oil and gas sector, environmental legislation, guidance from regulators and licence conditions or contractual obligations. In the Middle East, the specific decommissioning liabilities and obligations of the relevant oil companies (the contractor) are typically set out in the applicable host government granting instrument (HGGI).

There are a range of different types of HGGIs utilised by governments in the Middle East: production sharing agreements, technical services contracts, concessions, royalty and tax agreements or others (such as hybrids). Whatever the type of HGGI, as a minimum, modern HGGIs usually have provisions dealing with liability for decommissioning of assets. In addition, in many cases, modern HGGIs provide for (1) when and how the contractor must contribute towards the costs of decommissioning; and (2) whether the contractor is required to provide any security for decommissioning costs, which may not crystallise for many years after the HGGI is signed.

Although decommissioning provisions in different HGGIs vary, often they stipulate when the contractor is required to establish a decommissioning fund and to start paying into it. The trigger point might be calculated on a unit of production basis and be based on remaining petroleum reserves, or be triggered after a certain number of years following commencement of production.

The HGGI will usually provide how decommissioning costs are accounted for and whether they are cost recoverable. No methodology or trigger point is perfect. Petroleum reserves depend on the applicable oil price. Changes in oil prices can result in a premature trigger of funding obligations or a trigger that occurs too late. A trigger based on a bright-line time period may also be problematic, if it does not also take account of the reserves that are available to fund the obligation, or the condition of the assets.

Often, the contractor will estimate the costs of decommissioning when submitting a field development plan and once the contractor starts paying into the decommissioning fund, the contractor can cost-recover its contributions. Ideally,
from the contractor’s point of view, the contractor’s liability for decommissioning will be limited to the extent of the decommissioning fund, but that is often not the case in the Middle East or elsewhere (e.g., the UKCS, where the contractor’s liability is unlimited). Accordingly, the contractor needs to monitor the projected costs of decommissioning carefully to ensure that such costs are fully funded at the expiry of the term of the HGGI.

Decommissioning funds may contain significant sums of money. Both oil companies and governments are loathe to tie up capital. In future, Middle Eastern governments may consider the merit of allowing such funds to be used for authorised investments with an appropriate risk profile. There may also be instances where decommissioning is underfunded, and oil companies will doubtless make the case that the governments should share the risk. In order to reduce such risks and to encourage investment in new projects, governments may wish to consider whether tax rebates should be available for some or all of any unfunded decommissioning costs.

However, many older HGGIs are either completely silent with respect to allocation of decommissioning liabilities or include general provisions (e.g., to clean up the contract area) which do not go so far as allocating decommissioning liabilities between the contractor and the government. It is worth remembering that certain HGGIs in the region (for example, in the UAE) were entered into at a time when decommissioning was not contemplated and for terms in excess of 50 years. In these types of HGGIs, the contractor must complete an analysis of several issues to identify its potential liabilities and risks with respect to decommissioning liabilities.

From a legal perspective, review of the following items is key: (1) the terms of the HGGI and any obligations (whether specific or general) that may impose decommissioning (or decommissioning-related) liabilities; (2) local legislation specifically applying to decommissioning (if any); (3) any other local legislation that may be applicable (such as environmental laws); (4) any regional or international laws (for example, international conventions applicable to decommissioning of offshore infrastructure); and (5) any other provisions of local law which may, indirectly, impose obligations on the contractor with respect to decommissioning (such as an obligation to act in good faith when performing its obligations under the HGGI). Each of these is examined in more detail below, with some illustrative examples drawn from our experience of advising on HGGIs in the region.

Older HGGIs in the Middle East are often silent with respect to who is liable for decommissioning and the contractor’s relevant obligations. Often, the assets used in petroleum operations are stated to return to the government at the end of the HGGI. In such cases, absent other provisions or legislation to the contrary, the contractor can argue that the government is responsible for decommissioning and contractor’s obligations cease on the assets’ handover to the government. In some HGGIs, there are provisions that provide that the contractor must clean up the contract area, act in accordance with all applicable environmental laws and regulations and act in good faith in performing its obligations under the HGGIs. It is arguable in each case whether such provisions may impose on the contractor a liability for decommissioning where otherwise there would be none. In practice, where the HGGI is either extended or renewed, or offered in a new bid round, the government
typically makes it a condition of the renewal or extension, or a provision in the new HGGI, that the incoming contractor will assume decommissioning liabilities for the existing infrastructure. In circumstances where the HGGI has not been extended or renewed, we understand that liability for decommissioning has generally been negotiated on a case by case basis. In some countries, contractors have been proactive in seeking to delineate their rights and obligations in separate decommissioning agreements.

Local laws and regulations

Unlike in more mature jurisdictions (and we provide an overview of the regulatory framework in the UK below) where there is typically a considerable body of decommissioning law and practice, in the Middle East there are a range of different regimes. Many of the jurisdictions in the region do not have legislation that directly addresses decommissioning of oil and gas infrastructure and therefore the extent of the companies’ liabilities is unclear. Some jurisdictions have legislation that creates decommissioning liabilities but without accompanying regulations or a responsible body to oversee the implementation of such obligations. As an added challenge, there are typically no definitive databases of local legislation in the Middle East.

For example, the UAE, in line with other GCC countries, does not have specific legislation addressing decommissioning. Participants in the oil and gas sector must comply with applicable environmental laws and regulations. Federal Law No. 24 of 1999 for the Protection and Development of the Environment sets out the companies’ obligations with respect to the environment. There are also environmental regulations applicable in each Emirate. For example, the Abu Dhabi Petroleum Resources Conservation Law sets out specific notification requirements in relation to abandonment of wells. The penalties for breach of environmental laws are strict and include civil and criminal liabilities. Accordingly, even where the contractor’s liability for decommissioning is unclear, the contractor must ensure that it abides by the applicable environmental laws when conducting abandonment or decommissioning activities.

Similarly, in Federal Iraq, there are no specific laws governing decommissioning and the decommissioning liabilities are regulated by the terms of the relevant technical service contract. On the other hand, in the Kurdistan Region of Iraq, the Oil and Gas Law No. 22 of 2007 governs the abandonment and decommissioning of oil and gas facilities and pipelines. The law also grants the Minister of the Ministry of Natural Resources the right to make regulations related to abandonment and decommissioning. In 2015, the Minister issued Instruction No.1 on the Environmental Impact Assessment of Petroleum Operations, which has some provisions relevant to decommissioning. However, currently, the provisions with respect to decommissioning are not detailed. In addition, there are extensive environmental laws and regulations in both Federal Iraq and the Kurdistan Region of Iraq which apply to petroleum operations, including decommissioning operations.

Irrespective of whether there are existing laws on allocation of decommissioning liabilities, apart from laws applicable to abandonment of wells, we are not aware of any jurisdictions in the region that have specific, detailed laws and regulations applicable to decommissioning infrastructure. While contractors must follow
environmental laws and regulations, these are general in nature and do not contain any specific standards applicable to decommissioning of infrastructure, whether onshore or offshore. Accordingly, the only guidance will be provided by applicable international standards. While contractors must follow international laws on offshore decommissioning to which the country in which they operate is a party, we are not aware of any international laws that apply to decommissioning of onshore infrastructure. The contractors’ responsibilities can therefore be open-ended.

Regional and international laws

In addition to local legislation, in respect of offshore facilities, companies must be mindful of various international obligations relating to decommissioning of offshore facilities. These include the 1958 Geneva Convention on the Continental Shelf, the 1982 United Nations Convention on the Law of the Sea, the 1992 Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention) and the Energy Charter Treaty. Further, it is arguable whether a contractual obligation to comply with ‘good oilfield practice’ (which is common in HGGIs) creates an obligation to decommission. It is unlikely that such an obligation could be used to impose decommissioning liability where otherwise there would be none, but it seems it would impose an obligation on a contractor with a responsibility to decommission infrastructure to do so in accordance with ‘good oilfield practice’.

Implied obligations

Many jurisdictions in the Middle East are based on civil law and often include implied terms in contracts such as a duty on the parties to a contract to act in good faith. For example, the UAE Civil Code provides that a contract must be performed in accordance with its contents, and in a manner consistent with the requirements of good faith. Further, the UAE Civil Code provides that a contract is not restricted to an obligation of the contracting party to do that which is contained in the contract, but also that which is appurtenant to it by virtue of the law, custom and the nature of the transaction. It is difficult to assess in general whether such implied terms can be used to impose decommissioning liabilities where there are no specific contractual or legislative provisions. The contractor would argue that, where companies have specific decommissioning obligations, it is common for them to have the ability to cost-recover some or all such costs or to have the ability to offset such costs against tax liabilities. Where the companies are not specifically compensated, the fact that they ought to have known of such obligations in advance would have given them the opportunity to factor it into their original investment decision. Therefore, imposing decommissioning liabilities on such basis would be unfair.

In summary, decommissioning liabilities in the Middle East are, to the extent addressed at all, typically dealt with by including detailed provisions in the HGGI. There is very little legislation dealing specifically with decommissioning liabilities. Accordingly, the contractors’ liabilities for decommissioning under older HGGIs are unclear and are usually dealt with on a case by case basis. Moreover, except for applicable international treaties and regulations dealing with abandonment of wells, there is often no local law guidance with respect to the contractor’s specific obligations when decommissioning infrastructure.
The approach is very different from the approach taken in some of the mature jurisdictions where decommissioning liabilities are subject to a body of legislation or guidelines and the process is overseen by regulatory bodies, such as the UK and Norway. We therefore turn to one of the most mature jurisdictions in the world, the UK, for an alternative approach to decommissioning regulation and what other regions can learn from it.

**Lessons from the UK Continental Shelf (UKCS)**

The most significant piece of legislation in the UK regarding offshore oil and gas and decommissioning is the Petroleum Act 1998 (as amended, the *Petroleum Act*). The Petroleum Act implements the international obligations on decommissioning assumed by the UK pursuant to the OSPAR Convention.

Following the UKCS Maximising Recovery Review led by Sir Ian Wood in 2014 (the *Wood Report*), the UK government implemented several reforms, including establishing the Oil & Gas Authority (the *OGA*) as the independent regulatory body responsible for the upstream sector by virtue of the Energy Act 2016. Decommissioning, however, is regulated by the Department for Business Energy and Industrial Strategy (BEIS) Offshore Unit. The OGA works with BEIS to assess decommissioning programmes.

In its 2017 Cost Estimate Report, the OGA estimates UKCS decommissioning costs range up to £80 billion. Operators are expected to perform decommissioning on 349 oil and gas fields in the North Sea between now and 2025. The expected annual spend is close to £2 billion.

**Legal liability for decommissioning in the UKCS**

Part IV of the Petroleum Act makes it very clear that liability for decommissioning in the UKCS lies with the oil companies.

Decommissioning obligations arise when the Secretary of State serves a notice pursuant to section 29 requesting a programme setting out the plans for abandoning an offshore installation or submarine pipeline. The obligation to submit a plan and ultimately implement the programme (once approved) attaches to all parties to the licence at the time that the section 29 notice was issued and all subsequent parties to the licence. It may also apply to entities who had an interest in the licence.

The guidance issued relating to section 29 of the Petroleum Act specifically states,

“All [oil companies who have or had an interest in a particular field], whether or not they have sold their interest in a field, are treated equally in law and will be required to agree the decommissioning programme.”

The section 29 notice can also be served on parent companies and affiliates of licensees. The guidance further states that:

“The obligation to carry out the approved decommissioning programme is joint and several. This means that if any one of those with a duty to carry out a programme is unable to do so, the other interested parties will be responsible for the defaulting party’s

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6 See footnote 4 above.
7 [https://www.ogauthority.co.uk/media/4742/ukcs-decommissioning-cost-report-v2.pdf](https://www.ogauthority.co.uk/media/4742/ukcs-decommissioning-cost-report-v2.pdf)
burden. Ultimately, one party could become liable for the full decommissioning costs.”

In practice, it is expected that the late or last life operator would lead the decommissioning process.

The decommissioning programme would set out the steps to decommission disused installations and/or pipelines in detail and include cost estimates. Under the Petroleum Act, the Secretary of State may require that credit support be required for decommissioning obligations (which may include the provision of a letter of credit). Any decommissioning funds set aside in a secure manner (such as a trust or other arrangement which was established on or after 1 December 2007) are ringfenced from creditors’ claims under insolvency legislation.

The Secretary of State may also require participants to enter into a Decommissioning Security Agreement (DSA), when it has doubts over the parties’ ability to fund decommissioning. This agreement would set out the basis on which the parties would provide security for their respective share of decommissioning costs. The OGA has published a template DSA, which many participants adopt.

Cost

Oil companies are liable to pay for decommissioning. The current fiscal regime in the UK, however, allows an operator to deduct a proportion of decommissioning costs against any tax paid on profits on its UK operations. This is a significant tax break. Estimates vary but, in some cases, this could require the UK Government to fund over 50% of a decommissioning campaign. The Government has statutory authority to enter Decommissioning Relief Deeds with oil and gas companies stipulating the tax relief that they will receive for decommissioning costs. This greater level of certainty has helped to facilitate M&A activity in respect of mature fields.

Industry approach

Many of the older UKCS fields are now at or beyond Cessation of Production (CoP) points. The oil price collapse of 2014 resulted in many of the older fields becoming prematurely uneconomic. More recent increases in the oil price have helped project economics but the fact that the infrastructure will need to be decommissioned remains and this has driven new commercial structures in mergers and acquisitions. For example, both Shell and BP have transferred assets to smaller operators using commercial models that take account of future decommissioning costs. Such smaller operators will adopt different commercial operating models for these fields and in most cases will achieve some deferral of the CoP date. In many asset transfer deals, the sellers may choose to retain the decommissioning liability and there have been several transactions in the UK where the decommissioning liability will revert to the seller once the asset moves into CoP. Any construction or development work conducted under a new operator may be carved out from this deal to prevent the previous owner from bearing the liability for work conducted outside of their control.

All operators are required to have a mechanism for ensuring financial security to cover their potential decommissioning liabilities. This has been a factor in some large

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8 See footnote 11 below.
M&A opportunities in the oil and gas sector. An accurate view of any companies’ AROs is an important part of the valuation of any assets package.

Companies have varying methods for estimating AROs. The most common is to use industry accepted norms for creating these estimates. This is however vulnerable on several counts. Firstly, the amount of analogue experience in this field is minimal. This introduces a level of uncertainty into the cost estimates. Over time this will improve as more work is conducted, and industry norms and averages become more reliable. Secondly, norms make several assumptions about the condition of the asset. Where an operator is abandoning relatively new assets then these norms may lead to an overestimation of the costs to be incurred. However, for older asset packages these norms may significantly underestimate the costs involved. Similarly, the spread between low, medium and high estimate ranges is considerable. This can introduce significant variance between estimates. It is also difficult to foresee future costs. Assumptions must be made regarding the cost base for various rental equipment and services. This can have a significant influence on the accuracy of the estimates created. Given all these factors, it is not always wise to accept at face value the costs that are included in any estimate of AROs.

UK regulatory compliance

The UK regulations are the ultimate arbiter of what is required to ensure regulatory compliance. While this clarity is helpful, there is less certainty about what regulatory compliance means in practical terms.

The burden placed on the industry is to ensure that the risk of any harm to persons and damage to the environment during decommissioning is kept as low as reasonably practicable (ALARP). While the ALARP concept is a sensible and pragmatic approach, it does place the onus on the operator to determine what is required rather than proscribing a course of action. The regulations do not define an intersection point between the scope of work to be undertaken (and the cost) and compliance with the regulations. In other words, the scope of liability is uncapped. There is however extensive guidance with respect to the obligations of operators when preparing for, and executing, decommissioning activities.

Looking to the future

Planning for decommissioning

It is possible to safely extend the life of assets with careful thought, planning and an understanding of the nature of the assets in question. In respect of significant sources of pollution risk, such as wells, a full well integrity review is necessary to truly understand the condition of the asset base. In respect of structures, careful inspections and condition assessment should be sufficient.

Once the condition has been assessed, then these results must be reviewed, and the risks evaluated to develop an action plan. Implementation of the action plan and continual monitoring should follow. New technologies are facilitating better inspection and condition monitoring. Remote sensing is one of the readiest examples

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9 For example, see Guidelines for the Abandonment of Wells 2015, Guidelines on Late-Life / Decommissioning and Maintenance 2015, Guidelines on Decommissioning Cost Estimation 2013, Guidelines on Stakeholder Engagement during Decommissioning Activities 2013 etc. issued by OGA.
of such new technologies. Sensor package and strain gauges may be retrofitted to structures to allow them to provide real time monitoring of the forces being experienced by the structures. This information can then be used to provide a more accurate model of the current condition of an asset. Such real time monitoring systems are an integral part of life extension programs. Targeted programs of upgrades and maintenance can also be carried out using new software and methodologies that will focus maintenance efforts and costs where they are needed. In most life extension projects, the key is to spend maintenance time and money where it provides the most benefits. This period of extended life is critical to safe and efficient decommissioning and can be used by asset owners to prepare for final decommissioning. Ultimately, the extra few years will allow for planning and preparation that will likely save significant amounts of money.

Few decommissioning projects have been conducted in the Middle East region and, therefore, there is a relatively small amount of experience and number of lessons learned. Nonetheless, the oil industry is particularly adept at applying global learnings locally. It will be important to blend experience and knowhow from outside of the region with local knowledge, skills and capabilities, particularly given the costs involved in such projects.

The nature of decommissioning projects exposes companies to considerable risk of overspend. In our experience the best way to control such risks is not to delay planning. Ideally, operators should produce a coherent execution plan which takes account of timing, geographical groupings, talent management and experience.

In the early stages of planning poor data quality is a challenge that will significantly impact on cost and risk. There are no ready solutions for this challenge; however, assessing the quality of data as soon as practicable will allow for further investigation, contingency planning and broader ranges of cost estimates. The quality of data also varies depending on the nature of the asset being decommissioned. It is generally more difficult to inspect the quality of a well than that of a surface facility.

Creating a good plan is crucial to success. This plan must also contain a realistic and robust cost model. Cost is a key concern, but if the pre-execution cost estimates are unrealistic from the outset, this can drive poor project execution practices.

The accuracy of cost estimation and the competence of execution will be crucial. Underestimates of cost will, at least initially, artificially boost the balance sheet of companies and will influence the scope of work selected for decommissioning. Overestimates can be equally as harmful. Excessive estimates will promote an inefficient use of capital. Inaccurate estimates may also lead to excessive demands on public funds. In each case, the lack of clarity around decommissioning costs will create difficulties for public finance planning.

Engagement with stakeholders and the supply chain

Engagement with stakeholders and the supply chain is necessary for successful and cost-efficient projects. The exact nature of this engagement will vary from one decommissioning project to another, but likely stakeholders include:

1. Government authorities and regulators;
2. Industry interest groups;
3. Scientific and technical organisations;
4. NGO interest groups;
5. In the case of offshore facilities, representatives of the fishing and tourist industries.

Engagement with the supply chain also improves the chances of success. Too often operators do all the planning and option screening in-house. This work scope is then tendered on the basis of time and expenses. This practice, however, all but ensures that operators miss the opportunity to access new ideas, techniques and technology. The practice also precludes access to industry capabilities that reside within the supply chain and which may have added value in the option screening process.

Key planning and execution issues

All decommissioning projects, regardless of scale, location and regulatory regime will require proficient planning and competent execution. There are four key issues related to the planning and execution of a decommissioning project that need to be considered. These are:

1. Cost certainty and cost control
2. Procedural integrity
3. Regulatory compliance
4. Balancing costs and risks

These are discussed in turn below.

(1) Cost certainty and control

Any accurate cost estimate is hugely dependant on the planned scope of work being undertaken. It is therefore essential to define what infrastructure requires decommissioning, what its current condition is and what the forward plan is for decommissioning.

Cost certainty and subsequent cost control will require the combined skills of various technical and supply chain disciplines from within a single company and in cooperation between companies. It is a regrettable reality that there will probably be some form of scope and cost creep pressure. The challenge for the industry is how to control it.

Unlike costs associated with traditional exploration and production activity, there is little chance for any of the decommissioning costs to be offset against future revenues and so money spent unnecessarily cannot be recovered.

(2) Procedural integrity

The development and implementation of any decommissioning plan is at the centre of the challenge faced. In simple terms, companies must know what needs to be done, know how much it will cost and then execute within such budget.

A robust and dependable decision-making process that will deliver sensible, achievable objectives (considering all the stakeholders’ interests) is needed.
This process must:

• **Clarify the objectives**: it is important to establish very clearly the objectives of any program. The operational, safety, environmental and financial objectives of the plan must be unambiguous from the beginning.

• **Share the objectives openly**: all stakeholders need to understand and accept the objectives. These objectives will drive the priorities of the program and this will in turn affect the performance and the outcome.

• **Establish what is routine and what is not**: defining what is routine and what is critical or unusual is important in the preparation of plans. Choices will always have to be made about the allocation of resources and more time and effort dedicated to the critical or non-routine elements.

• **Manage the change**: having a clear set of objectives and using these as a reference helps the management of change. This will also prevent over emphasis on secondary objectives and avoid short term priority shifts.

A good, well thought through plan is the cheapest performance enhancement available and probably the most influential. Ideally, the process should be:

*Consistent – Effective – Documented – Repeatable and USED*

Above all other objectives it is important to deliver decommissioning with a strong focus on safety and environmental responsibility. Without these elements enshrined in the plan, the risk of a significant incident is greatly increased.

A well-executed plan costs less than all other alternatives. A plan with repeatability allows economies of scale. Capturing lessons learned will provide incremental savings within a project which will aggregate over a larger work scope.

Sharing experiences allows others to learn from mistakes. Decommissioning, unlike some other parts of the exploration and production business, is not a competitive sport. Good planning and execution will inspire confidence from all the stakeholders in the process.

(3) **Regulatory compliance**

One of the challenges in the Middle East is the lack of certainty. Without a clear understanding of the contractor’s decommissioning liabilities and other obligations under applicable legislation, it is difficult to make accurate budgetary projections. Commercial solutions exist (such as insurance) but they may not be available in the region and they are rarely comprehensive. We look at some of these in more detail in the commercial solutions section below.

(4) **Balancing costs and risks**

Locating the appropriate intersection between cost and risk is key in generating robust decommissioning plans. Arriving at the solution and then implementing it will require experience, practical skills, pragmatism and careful forethought. The decommissioning challenge is not an abstract one and solving it will require the
ability to blend a varied set of skills, knowledge, experience and technology.

One other important element is impartiality. There are many stakeholders with differences of opinion and competing agendas. It is therefore important that in planning and executing a decommissioning program the principle of “doing the right thing” is borne in mind.

Is regulation the solution?

As far as we are aware, there has been very little debate on this question\(^\text{10}\). The reasons for this vary; in the Middle East, we believe that it is due to a combination of the following factors. Primarily, a perception that decommissioning legislation is not required urgently: very few facilities have been decommissioned and there are no projections, at least not publicly released, as to the future decommissioning needs of the region. Secondly, the current approach (i.e., dealing with allocation of liability on a case by case basis) allows for a degree of flexibility, which is important in a region where governments’ bargaining strengths vary, with certain areas plagued by political instability and security issues; thirdly, any attempts at formulating specific decommissioning legislation and guidelines will require extensive consultation and negotiations between governments and oil companies, a task which will require significant commitment from all stakeholders.

Oil companies operating in the region are often working under HGGIs with no decommissioning obligations and with no applicable legislative framework. Without provisioning for decommissioning costs, such companies may find themselves with decommissioning liabilities which have not been factored into investment decisions and which they are not able to cost recover from petroleum production. Even where operations and decommissioning liabilities have been taken over by a new contractor, there is always a possibility that governments will try to claw back costs from previous contractor(s) if the new contractor is unable to pay. Conversely, governments operating under such HGGIs may find themselves responsible for decommissioning liabilities for infrastructure transferred to them at the end of the life of a producing field, despite such infrastructure being used for the benefit of the outgoing oil companies for decades. Uncertainty over such important issues may hinder informed investment decisions.

In particular, small and medium-sized oil companies are likely to be affected by such uncertainty. These companies typically take over marginal fields or fields that are nearing their end of life cycle. By tightening costs and using technology, they are able to extract value from fields which are no longer of interest to major oil companies. Accordingly, these companies require as much certainty as possible with respect to potential decommissioning liabilities and costs to be able to make accurate projections and decide whether to invest. Uncertainty may discourage those players from entering the region and result in stranded reserves.

From a purely legal perspective, where oil companies are conducting petroleum operations as a part of a consortium, joint operating agreements (JOAs) between oil companies allocate the partners’ liability for decommissioning on a proportionate basis. JOAs often require each of the partners to provide security for its respective

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shares of decommissioning costs. This is difficult to agree and provide for if there is uncertainty with respect to liabilities. In these circumstances, major oil companies may be unwilling to partner with smaller oil companies or local partners in order to avoid bearing the full cost of decommissioning costs (which are unquantifiable) if such partners are unable to meet their share of the costs.

There are two separate questions:

1. Should governments introduce legislation allocating decommissioning liabilities as between the government and contractor, and require contractors to provide adequate security for such obligations?

2. Should governments introduce legislation setting out standards to be observed when decommissioning infrastructure?

In respect of question 1, governments in the region have been allocating liability on a contractual basis as part of the terms of the HGGI. Typically, such HGGIs include detailed provisions with respect to provisioning and any requirements for security from the contractor (e.g., in the form of performance guarantees). While the approach does not give entrants the certainty and level playing field which would exist if allocation of decommissioning liability was governed by legislation, it allows governments flexibility when dealing with oil companies and negotiating the extent and form of the companies’ decommissioning liabilities. In circumstances where governments are trying to attract more investment, for example from other competing jurisdictions with greater stability, this could be helpful.

In respect of question 2, there has not been much guidance with respect to the standards applicable to decommissioning operations in the region. While mature jurisdictions have developed a significant body of laws, regulations and guidelines applicable to such activities, the Middle East has not. This may be a disadvantage to both governments and oil companies; oil companies could argue that they have complied with decommissioning obligations where the standard of work falls short of international best practices; governments could impose strict obligations on contractors in excess of international standards which may be difficult to comply with in practice and cost more than contractors have budgeted. Accordingly, more certainty regarding applicable decommissioning standards should be advantageous to all stakeholders.

The content of the decommissioning guidelines will need to be carefully considered and debated by the stakeholders. One approach could be for the jurisdictions within the region to each set up a regulatory body which has the relevant capacity and expertise to oversee the decommissioning process, from approval of decommissioning plans at the start of production through to the physical decommissioning of infrastructure at the end of field life. For example, in the UK, the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED), which sits within BEIS, fulfils this role. The regulator may also consider in situ decommissioning requests from operators. Typically, industry regulators will only consider such requests where the operator has demonstrated, through extensive assessments, the adequacy of the site and structure, the future impact on the environment, whether alternative options are feasible, and satisfactory proposals for ownership of the infrastructure and responsibility for future residual liabilities.
For decommissioning of offshore facilities, a consultation within the OSPAR framework may be an appropriate way forward. The relevant regulatory body will also need to formulate policies for facilities, such as pipelines and cables, which are not covered by OSPAR and for onshore infrastructure. Other mature jurisdictions, such as the USA and Norway, encourage the re-use and recycling of facilities. The regulatory body will have a role in promoting and regulating such recycling of infrastructure in the region. Establishing such regulatory bodies is likely to be a challenge; but clear guidelines will be of benefit to both investors and governments.

There is another important issue to be considered. The international push for countries to transition to a low carbon economy may hasten decommissioning of certain older infrastructure and may make the introduction of standards and policies for decommissioning activities necessary. For example, the UAE, the Kingdom of Saudi Arabia, Qatar, Kuwait and Jordan have ratified the Paris COP21 agreement and have committed to developing plans on achieving a low carbon economy. The UAE is committed to reducing emissions from gas flaring. Abu Dhabi National Oil Company (ADNOC) has zero-flaring as a strategic objective and, from 1995 to 2010, ADNOC reduced gas flaring by up to 78 percent. If governments in the region are committed to transitioning to a low carbon economy, and they certainly appear to be, the question of decommissioning is looming large: conducting decommissioning activities in a responsible and sustainable manner is of key importance in a region with such a large oil and gas industry presence. In the final section below, we explore some of the commercial solutions that could be implemented in the region.

Commercial solutions

We have identified above the current risks and challenges of quantifying decommissioning liabilities and complying with regulatory obligations. Oil companies operating in the region must plan for decommissioning in advance. Internationally, some of the large oil companies have dealt with decommissioning of infrastructure in-house. Such companies have developed internal processes for the planning, management and execution of their decommissioning obligations. Other companies have sold their assets with various novel approaches to apportioning decommissioning liabilities as between seller and buyer: some have retained them, others have transferred such liabilities to trust funds or shared them with the buyer.

The industry is looking at the opportunities for sharing expertise and experience in the region. In order to ensure some certainty where liabilities are difficult to quantify, there are various products and models that have existed for some time on the market. For example, insurance for decommissioning liabilities has been around in the North Sea for some time. Currently such insurance can be taken out for third party property and liability exposures that the operator will face (including abandonment and environmental pollution). There may be room for this to expand, for example to cover decommissioning warranties and cost overruns. However,

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12 The 2017 sales of UK North Sea assets from Shell to Chrysaor and from BP to Enquest are examples of sharing of decommissioning liabilities between seller and buyer. Shell retained US$1 billion of an estimated US$3.9 billion of liabilities. BP retained the decommissioning liabilities for existing wells and infrastructure for the transferred assets. Enquest agreed to pay BP further deferred consideration equal to a percentage of BP’s actual decommissioning costs on a post-tax basis, thus incentivising Enquest to complete the decommissioning at a lower cost.
insurers may be wary of insuring such liabilities in the region, in the face of all the uncertainties identified above.

An emerging alternative is turnkey solutions. These could be in the form of specialised service providers offering fixed price solutions to oil companies or strategic partnerships between oilfield service providers and oil companies to create holistic one-stop-shop decommissioning offerings. Such offerings could provide the industry with greater cost certainty while ensuring that decommissioning is performed in a safe and responsible manner.

The regional challenges are many. The opportunities are likewise many. The Arabian Gulf has been identified as one of the future hotspots for offshore decommissioning. A regional oil services sector that pioneers effective decommissioning approaches will be in a prime position to take advantage of those opportunities. Moreover, several jurisdictions with a significant oil and gas industry presence are regional leaders in environmental initiatives. Therefore, alternative uses of offshore infrastructure, such as in carbon capture and storage, or wind and marine power generation, are likely to capture the attention of invested stakeholders in the region.

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