

Establishing a National Oil Company in Lebanon

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Executive summary

This paper reviews possible roles for a national oil company (NOC) in Lebanon and their appropriateness at various stages of development. Specifically, it addresses when the right time to create a national oil company is; the role an NOC can effectively play in the pre-licensing, exploration, development, and production phases; and what governance frameworks can keep it in check. The paper concludes that the establishment of an NOC presents very real governance risks. While various processes and rules can mitigate these risks, such measures depend on strong political leadership. Without them, it will be difficult to hold the process to a higher standard.

Introduction

Countries which are exploring for or have discovered oil and gas are keen to increase national participation in their petroleum sectors and often see a national oil company (NOC) as a corporate vehicle for the defense of national interests in the upstream. Many of these emerging producers, including Lebanon, have expressed interest in guidelines on how to time the creation of an NOC and determining an optimal role for it.

In Lebanon, there have been calls by politicians and commentators for the creation of an NOC (Al Joumhouria 2015, Arab American News 2005).¹ However, the Offshore Petroleum Resources Law (OPRL, article 6) clarifies a necessary threshold for creating an NOC: ‘When necessary and after promising commercial opportunities have been verified, the Council of Ministers may establish an NOC on the basis of a proposal by the Minister based upon the opinion of the Petroleum Administration.’ This reasonable threshold is clearly not met in Lebanon, as the country has not held its first licensing round. In the pre-discovery phase an NOC will therefore not be needed in Lebanon. It is useful nonetheless to examine the idea more closely and debate it, should it receive more serious consideration at a later stage.

Key questions in this process are: When is the right time to create an NOC? What would Lebanon want an NOC to do? What would this role cost? What corporate governance mechanisms would an NOC need in order to perform effectively and avoid major pitfalls? What governance framework would keep it in check? Ultimately, if sufficient benefit to Lebanon cannot be established, the idea of creating an NOC should be questioned. The experience of other emerging producers can provide Lebanon with answers to some of these questions.

Section 1 will review common rationales for creating an NOC, contrasting the experience of established and emerging producers. Section 2 examines various types of NOCs and considers the potential benefits and risks of each model in the Lebanese context. The aim of this paper is not to recommend a specific model, nor to advise for or against the creation of an NOC in Lebanon, but rather to narrow down the available options taking into account the national context. Section 3 focuses on the governance framework that would be required to establish an NOC that is capable and accountable. The paper concludes with a review of the most appropriate NOC models for each stage of development of the resource base.

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In 2013, former chairman of the Parliamentary Committee on Energy Mohammad Kabbani and former Energy Minister Gebran Bassil said they supported establishing an NOC, as did parliament’s advisor for energy affairs, Rabih Yaghi, in 2015. Expert commentators Nicolas Sarkis and Fuad Jawad have also (separately) called for an NOC in 2005.

I Why create an NOC?

This section will review various reasons why states may consider establishing an NOC, with a particular focus on historical precedents and mandates and goals for NOCs.

a Historical importance of NOCs

Emerging producers—denoting those countries in the first stages of the development of their petroleum sector—have the benefit of hindsight as they look to their more established peers for lessons. For those new producers in Africa, key lessons include how to avoid the pitfalls that marred the progress of producers like Nigeria and Angola. For emerging producers in the Middle East, the lessons are different and quite positive. Established producers from the region stand out as peers to emulate. NOCs such as Saudi Aramco and Qatar Petroleum manage their petroleum sector very capably. There is great national pride in the history of nationalization of petroleum assets and a deep emotional attachment to sovereign control over natural resources remains strong in many Middle Eastern societies (as is also the case in Latin America). For emerging producers in the region, this may translate into public expectations that foreign oil companies should not dominate their national petroleum sector and an NOC should be able to take on some responsibilities for developing resources (Middle East Strategic Perspectives 2016).

While there are lessons to be learned from the history of Middle East NOCs, they are not completely transferable to an emerging producer context. First, for all their common cultural, historical, and political references, each NOC is unique. The national context in which they operate also brings with it a unique set of opportunities and challenges. For this reason, it is crucial for Lebanon to think carefully about how each type of NOC mandate would serve the interests of the country and how an NOC would interact with existing institutions and fare in the political economy of Lebanon.

Countries at the exploration phase with no proved reserve base (or only small reserves) should also be cautious about drawing lessons about how to manage the petroleum sector and how to establish an NOC from a country that has vast petroleum reserves and over the years has managed to create significant technical and managerial capacity. Emerging producers have a different national context to contend with. They face geological uncertainty about the size of reserves and prospectivity is not assured. They have less petroleum sector experience and commonly also low state capacity. The most obvious implications when creating an NOC are that the talent pool to draft from is limited and the financial resources to fund the initiative will also be limited. In this respect at least, Lebanon is unusual in that

it could draw on talented, experienced oil and gas professionals in the diaspora. However, it remains to be seen whether these expatriates can be drawn back to Lebanon.

When resources are scarce, strategic decisions must be made. This paper will reflect on policy options available at the exploration stage, post-discovery, and in the early production phase. As we will see, options change substantially over these phases, which makes a sequenced approach, involving incremental changes as the geological situation evolves and as capacity grows, very useful. Emerging producers do not necessarily need to set a ‘final’ institutional structure from day one. They can think a step or two ahead and anticipate future needs.²

b It’s not about profits

Inspired by the success and revenue generation of established NOCs in the Middle East, many citizens of emerging producers—and specifically in Lebanon—may assume that if their country establishes an NOC, the key questions will be ‘What to do with the profits?’ and ‘Who will benefit financially?’ Rather, the key concern should be how the fledgling company is financed, particularly as new NOCs are cost centers.

The capacity for NOCs to generate profits and the scale of those profits depend to a very large extent on the stage of development of the resource—in other words, whether the country has reached the production (revenue-generating) phase—and the ability of the company to retain earnings from oil or gas sales. Any company created before production will require the financial support of the state. Even after production begins (and assuming that an NOC has equity stakes in the producing fields), an NOC will likely be paying back operators of the field for its share of the costs they carried until production.

In the case of Lebanon, which is in the pre-licensing phase, revenues from production would likely not arrive for fifteen years after the first bid round—assuming a commercial discovery is made and the enabling policy and legal framework is supportive. Exploration, assessment of discoveries, agreement between the host government and operators on a development plan, and the development of processing and export facilities all take time. Tanzania, for instance, which licensed in 2007 and made several offshore gas discoveries from 2010-14, is stalled in the pre-FID (final investment decision) stage because the operators are waiting for a ‘host government agreement’ to clarify the conditions under which the project will operate. In Lebanon, which has been unable to elect a president for two years and where sectarian politics amplify the risk of policy paralysis, one should expect time-to-production and revenues to be unusually long (beyond fifteen years). The progress of

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These are recommendations of the New Petroleum Producers Discussion Group—refer to the Guidelines for Good Governance in Emerging Oil and Gas Producers 2016.

the sector toward its first licensing round has already suffered unusually long delays, with the process on hold for three years.

Until production begins and revenues flow from sales of oil or gas, NOCs in emerging producer countries have relied on the following sources of revenue:

- Government budget allocations: This represents a core source of funding for NOCs in the pre-production phase. Allocations are subject to government priorities, meaning they fluctuate and are unreliable.
- Downstream sales: For NOCs with activities in refining, midstream (transport), or retail, those revenues can contribute to a significant part of their budget but will also fluctuate due to the cyclical nature of the downstream business. Some NOCs are granted the right to impose levies on the domestic sale of petroleum products so they can generate revenues outside the national budget.
- Upstream revenues from geological data sales or payments from operators: Some NOCs are granted the right to retain revenues from data sales, signature bonuses at licensing, surface rental rights, and other types of upstream revenues. These can be a significant share of an NOC's budget. They also fluctuate because they depend on exploration interest and the holding of a licensing round.

Financial constraints cause most NOCs in the pre-discovery stage to be small. Staff sizes range from twelve to one hundred fifty for NOCs without downstream operations. NOCs at the high end of that workforce range are bloated entities, with the growth in spending supported by an NOC taking some upstream revenues. These NOCs faced serious financial difficulties when the oil price fell and exploration slowed because upstream revenues dried up and they could not maintain their labor costs. NOCAL of Liberia, for instance, was forced to cut its staff by three-quarters in the summer of 2015, as it had grown beyond its means to 146 employees (Marcel 2016).

In Lebanon, upstream revenues from operator payments (application fees for the bid round and area fees) and data sales are set to go to the treasury. Unless the government decides to allocate these revenues differently, it should be expected that an NOC would be funded primarily by a government budgetary allocation. Therefore, if an NOC is created before production starts, a key consideration will be how much the Lebanese state wants to invest in it every year. In other words, it will be necessary to determine what kind of NOC Lebanon can afford.

This question should be considered by the state in terms of risk and reward. Today, for Lebanon, the risk of creating an NOC involved in the exploration phase is higher and the payoff of an investment in

an NOC is highly uncertain. Changes to upstream agreements over the last 50 years have put the exploration risk onto private companies. Indeed, given the high risk of failure during exploration, it is questionable whether NOCs should be responsible for exploration projects, particularly where their experience is limited. Risks should be weighed carefully, especially considering competing demands for state funds in a country with urgent development priorities. Unless the state believes an NOC would do a better job at developing the sector than the Lebanese Petroleum Administration (LPA), the risks of an early creation of an NOC outweigh the rewards. Later, should reserves be proven, the perception of risk and reward may change and justify investments in an NOC. However, even where geology is proven, investing heavily in an NOC means transferring a larger share of risk to the state, with the hope of bigger payoffs in time. It should be noted that significant risks remain during the development phase (post-discovery, during the elaboration of development plans for the project), when cost overruns and project delays can occur.

c Range of state goals and the importance of a clear mandate

NOC ambitions have often led them to take on wider mandates (creeping into a state agency role or taking on non-commercial functions). They have also sought to develop technical capacity beyond the requirements of their given mandate (investing more heavily in technical upstream skills than warranted by their role or level of activity). Sometimes this has been done with the consent of a government that was eager to see an NOC become a strong player in the upstream. Conversely, governments have also required them to hire nationals, causing them to become bloated and expensive organizations.

For these reasons, it is essential for the government to define in very clear terms the mission of an NOC and the scope and limits of its role. An NOC interacts primarily with a Ministry of Energy and Ministry of Finance and a regulatory agency where one exists (as in Lebanon). Historical and modern experience shows the prevalence of encroachment and overlap of roles between these organizations and an NOC. A common outcome is that of the Principal-Agent Problem, which arises where a self-interested NOC (the agent) has more information about the sector, preventing the principal (the state) from holding it to account and ensuring that it acts in the best interest of the state. It is therefore of key importance for governments to assess what NOC role would fill a gap in the existing petroleum governance system, give careful consideration to how it would interact with other organizations with a role in the sector, and invest in building its capacity to hold an NOC to account.

At least initially, a new NOC in Lebanon would naturally play a

relatively small role. The LPA is well established and assumes all responsibilities for promotion, licensing, and oversight of operations. A new NOC should respect the boundaries delineated by existing institutions.

An NOC's role should be defined by the government and guided by a clear prioritization of state objectives. Many objectives commonly given to NOCs can be carried out by state agencies or even the private sector, and the state should consider whether there is a benefit in creating an NOC to do so:

- Maximizing revenue: NOCs are often created to hold minority or majority stakes in licenses on behalf of the state in order for it to capture a greater portion of rents—a share of profit oil—in addition to royalties, taxes, and dividends. It follows that the greater the share of upstream acreage under the control of an NOC, the greater the percentage of rent transferred to the state through profit oil. But to maximize the state take, an NOC will need to be focused on cost control and make sound investment decisions. Many NOCs have failed in these aspects of their mandate.³
- National control of the resource: This is a legitimate political goal, prevalent in countries with a colonial past. Oil is a politically sensitive resource in many countries. Ensuring a national company is involved in the process of transforming natural resources is a question of national pride. This objective translates into the state granting an NOC guaranteed minority stakes and sometimes in tasking an NOC to become an operator to encourage the development of upstream skills. Another vehicle for national control is an NOC with a regulatory role.
- Security of supply: This has been an important role in the pre-production phase for many companies tasked with imports of gasoline.⁴ Countries in the production phase may have an NOC that is vertically integrated, refining a share of petroleum production for domestic supply.
- Providing affordable energy to domestic users: NOCs have been required to supply the domestic market with energy at cost or below cost, subsidizing domestic energy use. This is a risky course of action for an emerging producer because once subsidies for energy are in place they are politically difficult to remove later. They lead to increasing patterns of domestic consumption, which in the Persian Gulf have proven unsustainable and costly (Lahn and Stevens 2014).
- Assisting with the implementation of economic development policies: This NOC objective is important in countries with low economic development and/or low state capacity to provide services to the population. NOCs are tasked with promoting national economic development in two ways: They make use of their role in the sector to

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For a discussion of the causes of poor NOC performance see: David Victor, David Hults, Mark Thurber (2012).

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For those in the production phase, this role would entail investing in refining, midstream or retail.

create supply chains and foster linkages between the energy sector in the rest of the economy or they may take on activities in sectors somewhat unrelated to their core business or become sponges to absorb unemployment. Clearly the former is more beneficial to the country but needs to be strategically overseen by the government. In the absence of this oversight and accountability, these kinds of programs can be a source of patronage and corruption.

- Promoting social welfare: This was historically a central goal for NOCs tasked with funding hospitals or road construction or providing more generally for the needs of the population where the state administration was unable to do so. However, most NOCs have backed away from this role as it constitutes a drain on their resources. Government capacity also increased in most established producers, meaning they could provide services without the assistance of NOCs.

The relative importance of the above objectives will vary from country to country depending on resource bases, state administrative capacity, and petroleum sector skills available. Governments must then decide how NOCs can contribute to implementing a national vision for the development of the country and what gaps it can fill. In an emerging producer context the government should expect those variables to change over time and they will need to reassess NOC objectives every three to five years, while providing a good degree of overall policy consistency.

Some changes in mission and focus of NOCs are more reactive, leading to wasted efforts and investments and erratic strategies. Even well-established NOCs have seen their missions change in response to urgent national needs or drops in the price of oil, requiring them to focus on addressing welfare needs or cost control. A similar fate befalls new NOCs. For instance, in the period 2011-2014, when oil prices were high, NOC missions were ambitious across many emerging producer countries—such as NAMCOR in Namibia and GNPC in Ghana, which decided to become standalone operators. Since the fall in prices, NAMCOR has abandoned its operator ambitions, while GNPC struggles to finance its growth strategy.

To avoid this, governments should assess what NOC mandate would add value (on the basis of some of the state objectives detailed above, for instance), what this would cost, how long it would take a new NOC to execute that role effectively, and what governance systems should be in place to hold an NOC to account. The success of this political process of defining a mandate and assessing performance depends on the capacity and will of the political leadership.

II What NOC mandates would serve Lebanon's interests?

This section will review possible mandates for an NOC in Lebanon, asking in each instance 'What would be required to make it work?' and 'Is this mandate appropriate for Lebanon today? If not, when?'

a A concessionaire-type NOC

Several emerging producer countries have seen the benefits, notably through rapid capacity building in oversight, of mandating their NOC to handle some or all regulatory functions of the petroleum sector on behalf of the state (Ghana, Brazil from 1970s-1997, Kenya). However, in a country such as Lebanon, where a capable and independent regulatory agency already exists, giving a new NOC a regulatory function would muddle governance processes and undermine the LPA. There would likely be overlap and competition for functions between the agency and the company. Lack of clarity in roles and responsibilities is one of the greatest causes of poor governance of a national petroleum sector.

Other countries that established a regulatory agency first and a NOC second include East Timor, Uganda, and Mozambique. One of the benefits of proceeding in this sequence of institutional building is that there is a greater likelihood of clear roles being delineated, with the agency able to hold its own vis-à-vis the company.

For these reasons, Lebanon should avoid giving an NOC a role that would usurp that of the LPA in licensing and regulating operators. Other governance roles that could be considered include an advisory role to the LPA and the Ministry of Energy. This role may arise if an NOC holds the state's equity share and sits on development committee meetings with foreign oil companies. On these committees the company may represent the state concerning technical and cost issues that will arise. To ensure good governance such roles should be clearly defined with clear reporting lines.

b Manager of state equity shares in the upstream

An NOC that is a manager of state interests in the upstream is distinct from a commercial NOC that owns minority interests (described in the next section). The manager of state interests doesn't aspire to be an oil company—with aspirations like participating in corporate decision-making structures and investing in subsidiaries—but is a much more passive stewardship company playing an oversight role. Norway's NOC Petoro is a good example of this type of NOC. Petoro does not operate any fields and does not directly own the licenses. It manages the state's participatory interests in joint ventures.⁵ Key elements in creating and securing value for the state are achieving optimum recovery of resources within each license and ensuring that the

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It is also mandated to monitor Statoil's marketing and sale of the petroleum produced from the state's direct financial interest, but this aspect of its mandate is not relevant in Lebanon because it involves the oversight of another NOC.

government obtains its rightful share of this value. Petoro does this through active participation in licenses. This aspect of its role requires a high level of technical competence. In its early years, a Petoro-styled NOC in Lebanon would not have the knowledge base to effectively ensure optimum recovery of oil and gas from each license. It would initially be learning from operators about the technical and risk management factors that shape their decision-making.

Another aspect of Petoro's role is its focus on risk management and financial management for the state's direct financial interest, including preparation of budgets and keeping of accounts. This is an important aspect of its role because Norway has large holdings in oil and gas and Petoro manages the portfolio on behalf of the state. However, in Lebanon, where the reserve base will likely be on a significantly smaller scale, portfolio management will not be a key focus.

This NOC mandate, as with an NOC as a commercial upstream company, rests on the idea of state participation. Many countries provide an option for a host government to 'participate' in a project as a joint venture partner. Most commonly in an emerging producer country the foreign oil company 'carries' or pays the way of its NOC partner through exploration, appraisal, and possibly even development, after which, an NOC must contribute its share of the costs as per its share of equity. The private investor may or may not be compensated for the funds advanced on behalf of the state (McPherson 2008). Repayment is commonly made through government revenues once oil production begins.

In Lebanon, Article 6 of the Offshore Petroleum Resources Law states the following regarding state participation: 'The State reserves the right to carry out or participate in Petroleum Activities pursuant to this law and its share shall be stipulated in the Petroleum License or the Exploration and Production Agreement, and shall be determined according to a Council of Ministers Decree taken on the basis of a proposal by the minister based upon the opinion of the Petroleum Administration.' For the first licensing round, once the EPA is approved, the government is set to decide, based on the advice of the LPA, not to adopt state participation.

Whether Lebanon decides to provide for a minority state participation in future licenses will depend on its calculations regarding risk and reward. Myers and Manley compared the state take (revenue to state) of Norway and the UK in the North Sea, finding that 'Norway generated more than double the revenue the UK did from each barrel it produced' thanks to majority stakes in 11 out of 14 billion barrel fields, while the UK government 'has had effectively no direct equity participation in the North Sea and has had a fully private upstream sector, with taxation as the only channel of government revenues from hydrocarbons'

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Norway has generated \$18.8 per barrel of oil more in revenue for the state than the UK has: \$9.1 less tax take per barrel and \$9.8 per barrel in state equity cash flow and dividends (Government revenues from oil and gas production in 2014 prices since 1970 on a per barrel of oil equivalent basis).

since 1986 (Manley and Myers 2015).⁶ While it was clearly a good investment for the Norwegian state to invest funds in its equity stakes, they were risking public funds on the positive commercial outcome of petroleum projects. Emerging producers should take this investment risk seriously, especially where they have a limited understanding of how to evaluate geological and financial risk. For these reasons, it is highly unusual for the government to participate in the exploration phase. Rather, the company takes all the risk associated with exploration and the government can ‘back-in’ to a percentage stake if there is a discovery (KCSPOG 2016).

Nevertheless, the rationale for state participation is not purely economic. A state stake demonstrates that a country has not licensed away its natural resources to foreign oil companies. This can be politically important for emerging producers, which commonly have a colonial legacy and must also stand to comparison with established producers that nationalized their oil sectors decades ago and now boast a degree of operational control over their upstream. Another justification for state participation is the access it gives an NOC (and other designated state agents) to decision-making regarding the field. With an equity interest, the state (through its agent) participates on essentially the same terms as other private oil companies in a joint venture.

The suitability of a Petoro type company in Lebanon would also hinge on the implementation of high standards of corporate governance. The company’s role is to ensure ‘that the state receives its rightful share and does not get charged a larger proportion of costs than is warranted’ (Petoro 2016).⁷ To carry out this role effectively, a company should take steps to avoid regulatory capture—capture involves an NOC advancing the interests of commercial or political groups that dominate the sector it is regulating, instead of acting in the public interest. Specifically, this means an NOC would need to keep foreign oil companies at a distance in order to assess their costs with impartiality. At Petoro, ‘Conflicts of interest are a fixed item on the agenda at board meetings, and directors with such a conflict withdraw from the board’s consideration of the relevant issue.’ It is also good practice for any revenue and expenses related to portfolio state equity interests to be kept apart from operational accounts of the company.

Funds for operating costs of Petoro AS and Petoro Iceland AS are provided by the government.⁸ Petoro is a small organization of seventy employees. Any company established in Lebanon would require a very small staff in relation to the work to be done (likely under ten people). Such a company should be housed in an existing institution—such as the LPA or the Ministry of Energy or Ministry of Finance—until more significant equity shares are to be managed. And even then, such a company should not become a bloated entity with a large staff.

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Petoro website,
<https://www.petoro.no/about-petoro>.

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Operating expenses in 2014 were NOK 301.5 million (approx. \$37mn) for the group. They related primarily to payroll and administration expenses and to the purchase of external services, like studies on mature fields.

c A commercial upstream company

A commercial upstream NOC presents a slightly different mandate from the manager of upstream equity stakes in that it would own its equity shares in licenses and its mandate would be to operate commercially. Its governance role (or on behalf of the state) should normally be very limited (including at most an advisory role to the LPA or the Ministry of Energy or Ministry of Finance). It would be mandated to build its technical capabilities and increase its presence in the upstream sector in Lebanon, and over time, to become a successful commercial entity. A subset of (or the ultimate evolution of companies with) this type of mandate is an operator; in other words, an upstream company that has legal authority to explore for and produce petroleum resources in a given field. This aspect of the mandate will be considered later in this section. For now, this paper will first consider the role of an NOC as a commercial entity holding minority equity shares on behalf of the state.

The commercial upstream NOC mandate is the archetypal mandate for an NOC in the Norwegian-inspired separation of powers model. As Lebanon is receiving Norwegian technical assistance through the Oil for Development program, both this model NOC and the Petoro-style NOC model are relevant for Lebanon.

As Mozambique has been the largest recipient of Norwegian petroleum-related assistance, with substantial and sustained contributions since 1983 (in addition to other multilateral and bilateral aid), it is useful to examine the achievements and challenges that its NOC, Empresa Nacional de Hidrocarbonetos's (ENH), faces. Foreign technical assistance allowed Mozambique to set up a well-functioning 'separation of powers' model, with an independent regulatory agency (INP), an NOC (ENH), and a Ministry of Energy, each with clearly defined roles. As prescribed by the separation of powers model, ENH does not benefit from special privileges in the upstream sector in Mozambique (aside from licenses granting it minority stakes). Since ENH's was established in 1998, it has worked to establish its technical capacity through its 15% to 25% equity participation in licenses. However, it has struggled financially and lacks the resources to invest in capacity building, and more significantly, to meet its share of costs related to its equity stakes. In contrast to many emerging NOCs whose share of costs in the license are carried through to production, ENH must finance its share of development costs. In Mozambique's Rovuma Basin offshore gas concessions, the state is entitled to 15% of Anadarko's Area 1, and to 10% of ENI's Area 4. Anadarko estimates that the capex for the first stage of the Rovuma Basin project, which consists of two LNG trains and the development of offshore gas fields, will be approximately \$20 billion (Nuvunga 2015). The challenge for cash-

strapped ENH is how to raise the estimated \$1.5 billion to \$1.7 billion to cover its share of the projects (Financial Times 2015). ENH is looking at the possibility of initially being 'carried' by its partners in the projects, with foreign groups financing the Mozambique company's equity contributions.

Funding state participation can indeed be challenging. And when an NOC is unable to generate enough money to meet its cash calls, project delays may ensue that are costly for state revenues. For this reason, it is key to determine the appropriate level of state participation. If the project is profitable, funding high levels of state participation offers a net gain for the budget. But the timing of flows can be tricky, and the state may need to lay out funds for a while before getting returns. In the interim, the required outlays draw resources away from other urgent budget priorities. There is also the possibility a project will not be profitable. Small levels of state participation would be more suitable in a country with immediate socio-economic budgetary priorities like Lebanon, but project risks at the development stage can be substantial, especially in relation to the smaller size of the economy and state budget.

In Kenya the National Oil Corporation has minority stakes that were carried to the development phase. In February 2015, it was reported that the National Oil Corporation of Kenya (NOCK) was seeking to raise \$1.2 billion through internal sources, external debt, and other equity partners in order to finance its share of oil development costs following discoveries (KCSPOG 2016).

Established oil or gas producers can use sales from their production to finance the state's share of capital expenditure for new LNG projects. Emerging producers do not have this option and their NOCs struggle to finance their share of costs. A solution is to have oil companies carry an NOC financially until production, but they will expect compensation for this 'carry'. The companies will recover the cost of carrying an NOC once production starts, which delays revenues being delivered to the state. Another option is to wait to establish an NOC until the production phase and take an equity stake that will generate revenues (once the cost of the stake is paid for). In this case, the state's intention for an NOC to take a minority stake at the production phase should be laid out in the licensing phase. In all cases, the cost of state participation through the vehicle of an NOC should be considered carefully by governments.

Table 1: State Participation Options

Coste	Full Equity	Partial Carry	Full Carry
Exploration	State pays full share of costs as incurred	Company pays all costs (State may pay back)	Company pays all costs (State rarely pay back)
Development		State pays full share	Company pays all costs (State normally pay back from production)
Production		State pays full share	State pays full share
Examples	Norway, Venezuela	Kenya, Mozambique	Egypt, Ghana, Angola

Source: **KCSPOG (2016)**.

A related point is that the state will only benefit financially if an NOC manages its costs carefully, as well as those larger costs of the project (which the NOC may not control directly). As the KCSPOG paper points out, state revenues generated through state participation do not go directly to the treasury if the asset is held by an NOC—in contrast to the Petoro model. In this case, the actual revenue to government is limited to corporate income tax and dividends that an NOC pays to the treasury. It is therefore important to establish an NOC under a financial system that encourages cost reduction and profit-making, so a greater share of the turnover is sent to the treasury.

If such an NOC is established in Lebanon at the exploration phase, it will be dependent on government budget allocations or upstream payments from operators (e.g. capital gains tax on transfer of rights, surface rentals, or other revenues, as determined by government) and it will need to stay lean, with a small staff (under twelve people). If an NOC is created after discoveries, during the development phase its capital expenditure will dwarf the government budget and the government will need to allow it to raise finances on capital markets and/or with equity partners. Conditions for its farm-in to existing licenses will need to have been established at the licensing stage. If an NOC is created at the production phase, those conditions will again need to be established. An NOC will need a financial structure that incentivizes cost control. Importantly, its level of activity in the upstream—presuming it takes a few minority stakes in production or development licenses—will not be of sufficient scale to justify a company with a large workforce (twenty to eighty people, depending on its intention to take on operator responsibilities). As a recent article on the matter pointed out, Lebanon has a strong tendency toward clientelism and mass-staffing of public institutions. ‘Some of those calling for establishing an NOC at this stage have a poor record in this regard’ (Middle East Strategic Perspectives 2016).

In many emerging producer countries, petroleum laws give NOCs the right to take on operator responsibilities for fields and some specifically mandate that NOCs become operators. An NOC becomes an operator when it takes on a majority equity stake in a field. It then becomes responsible for the development of that field. It requires a high level of technical and financial expertise as well as project management capacity. An operator must be able to select the appropriate technology, propose a development plan, raise financing, manage a large project, and assess geological and financial risks. An operator manages a high level of risk, such as shouldering possible losses for dry holes in wildcat exploration that are in the range of \$100 million per well. However, emerging NOCs rarely have the financial and technical capabilities to take on such responsibilities (Marcel 2016).⁹ This aspect of the mandate tends to be aspirational. However, it serves neither the company nor the government to set expectations that cannot be met.

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This issue is discussed in greater detail in Valerie Marcel (2016) 'The Cost of An Emerging National Oil Company', Chatham House.

Becoming an operator takes time, from seven and fifteen years, and is very costly. Without significant proved reserves, revenues from production or a history of petroleum sector experience to draw on, a new NOC in Lebanon will not be able to develop operator skills. For this reason the recommendation of the new petroleum producers discussion group is to delay the goal of operating in the upstream until discoveries promise a reserve lifespan that is longer than the time it would take to develop these capabilities—hence waiting until the reserve base promises at least fifteen years of production. Until this reserve base is established, governments should raise general human and state administrative capacity through training, focus on skills-building within the Ministry of Finance and Ministry of Energy and the LPA, and provide an NOC with only a limited budget for building operational skills (Chatham House 2016).

Lebanon should also consider that the cost of developing operator capabilities and meeting the exploration and development costs of a field are very high. There is a wide range of costs in the development of operator capabilities (depending on the type of geology, the cost of buying in to assets, existing capabilities, for instance), but in all cases these costs are too high to be funded out of a state budget and a new company is not likely to obtain the capital required on financial markets. Once in production, an NOC may draw on petroleum revenues, provided its financial structure allows it to retain revenues from export sales. It is therefore a more appropriate goal for the production phase.

d **A commercial downstream or marketing company**

A different type of NOC could be created in Lebanon in the event commercial discoveries are made and once production begins, with a

mandate to market the state's share of petroleum. Its focus could be export sales or creating the infrastructure necessary to bring petroleum to shore for its productive use in Lebanon.

Cyprus's NOC provides a useful illustration of this type of company. Cyprus established the Cyprus Hydrocarbons Company (CHC) in 2014. The CHC is working with Block 12 contractors to jointly market the government's share of gas produced at the Aphrodite Field. The company will take ownership, on behalf of the country, of any major infrastructure projects that will be established in relation to the sector such as the proposed land-based LNG plant in Vasilikos or subsea pipeline (Energy Board Room 2014). It is a lean company, due to the small scale of its activities. In 2014, the budget Law 57 (II) of 2014 granted the company a budget of 1 million Euros (Government of Cyprus 2015).

Another aspect of the CHC mandate is to participate in management committee meetings with operators on behalf of the state. To effectively carry out this role, an NOC requires technical capacity and experience. In the case of Lebanon, the LPA is more firmly established with such capability and there would no added value in having an NOC duplicate skills development to carry out this role. However, as the resource base develops and the potential rewards of creating an NOC increase, the state may want to develop an expert company that increasingly builds a deep understanding of the commercial business and industry expertise over time.

This type of NOC may also have a more downstream focus, with a view to bringing (some of) the gas to shore for use in industry or the power sector. For instance, Ghana, in a drive to stop flared gas (associated with oil production), developed a plan for its productive use in Ghana. The country's priorities for the energy sector are power, cement, and CNG in the transport sector. The NOC, GNPC, was tasked as the National Gas Aggregator to invest in securing low-cost gas for power generation and to develop a gas market to monetize gas resources (GNPC 2015). Financing these investments is a challenge for Ghana and its NOC, especially in light of current oil market conditions and national public debt (GNPC 2016). In Lebanon, an NOC would face an additional challenge related to the higher cost of non-associated gas.

In deciding to have an NOC focused on supplying gas (or oil) to the national market, there is a risk that the company will be required to provide gas at prices below cost of supply through some form of subsidy or special transfer pricing. Such practices encourage the undervaluation of gas in society, encourage excessive consumption, and benefit the rich more than the poor (Chatham House 2016). Transfer pricing also tends to be opaque, which presents significant risks in terms of corruption.

e **A champion for maximizing in country value**

Another role for an NOC could be one focused on maximizing linkages between the national economy and petroleum sector. Activities could include support of education and vocational training and the creation of national supply chains. The Oman Oil Company (OOC) is a good illustration of this model. OOC is a commercial company wholly owned by the government of Oman. It was established in 1996, as a national flagship company with the objective of reducing national dependence on oil revenues by diversifying the economy and building human capital. Within the sultanate, it develops oil and gas-based industries and related supply chains in partnership with international companies. A key feature of the company is that it is government owned, yet commercial, and has developed competencies in project management (OOCEP 2014).

In Lebanon, an NOC along this model would only be justified in the production phase and if the scale of petroleum sector activities and their duration were large and long enough, respectively, to support the NOC's activities. In other words, it would be justified if there are several projects to create some demand for goods, services, and skills (Marcel, Tissot, Paul and Omonbude 2016).¹⁰ In the event that discoveries promise a shorter production lifespan (e.g., fifteen to twenty years), the focus of such a company should be on helping local businesses, universities, and vocational centers get a timely (early) understanding of the size of the demand for goods, services, and skills for the petroleum sector and of any requirements regarding the standards and certification required by the industry. In many producer countries, local companies and educational institutions do not have a clear view of the demand from petroleum sector projects, one that would enable them to build capabilities or goods to the standard required by the sector in a timely way.

A common mistake made by emerging producers wishing to actively participate in the nascent joint sector is to train petroleum geologists and engineers, whereas the petroleum sector's greater needs in terms of skills will be more likely for electricians and welders. Countries like Ghana, which invested significantly in educating young Ghanaians since discovering oil in 2007, have a growing segment of young petroleum engineering and geology graduates without jobs. Efforts to minimize dependency on the oil sector should always be made, regardless of the size of the resource base. It is particularly urgent to focus on transferable skills and services in countries with a relatively small petroleum sector—in other words, develop a skill or service that can be used by the petroleum sector and other sectors (Marcel et al 2016).

In Lebanon, the economy shows weaknesses in terms of technological readiness, as measured in the World Economic Forum's (WEF) Competi-

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Context appropriate decision-making for local content is presented in Valerie Marcel, Roger Tissot, Anthony Paul, Ekpen Omonbude (2016).

tiveness Index through the availability of the latest technologies, firm-level technology absorption, university-industry collaboration in E&D, FDI, and technology transfer, but demonstrates high levels of business sophistication, in terms of local supplier quantity and value chain breadth and competitive advantage, in addition to quality of education and the availability of venture capital (World Economic Forum 2015). These proxy measures of the readiness of the Lebanese economy to engage with the petroleum sector are encouraging. But they also point to the value of having an organization increase the national economy's visibility of the petroleum industry's expected demand (what demand, to what standard and when) and conversely for the industry to understand better what is available locally. Specifically, this could mean raising the operating standards of suppliers to meet the requirements of the industry and increasing university-industry collaboration so the right skills are developed. An NOC could take on this role, but it could also be handled by another state institution.

In light of Lebanon's intractable problem with corruption (specifically bribes and favoritism in government officials' decisions)—which ranks among the greatest obstacles to doing business in the country in the WEF index—an NOC (or any other state organization) should not be responsible for determining which companies or individuals are awarded contracts to supply goods and services to the petroleum project, for instance by handling a pre-qualification process for domestic suppliers. An NOC's role could merely be to improve educational institutions' and businesses' understanding of petroleum sector needs and facilitate training and certification to bridge any gaps. In light of the size and capacity of Lebanon's local supplier base, local companies would not need preferential local content regulations. Such regulations open the door to picking winners and corruption.

III Governance framework required to oversee an NOC

The analysis of the governance framework necessary to oversee an NOC in Lebanon centers on five principles of good governance identified by a group of producer countries and Chatham House (Lahn, Marcel, Mitchell, Myers, and Stevens 2007). These principles apply to producers at any stage of development of a resource. For each principle, this section reviews governance challenges that are present in Lebanon and strategies, where available, to mitigate those risks.

- Clarity of goals, roles, and responsibilities
- Enablement to carry out the role assigned
- Transparency and accuracy of information
- Accountability of decision-making and performance
- Sustainable development for the benefit of future generations¹¹

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The focus on this discussion will be on the governance risks related to the NOC's role and its interaction with other actors, rather than on policy or strategy. Therefore, this section will not review the implications for sustainable development.

a Clarity of goals, roles and responsibilities

Clarity of roles and responsibility is a central element of good governance in the national petroleum sector. In Lebanon, roles are broadly clear at present, with the LPA tasked with licensing and monitoring operators. The introduction of an NOC in the system should be carefully managed by giving the company a mandate that is clearly delineated to avoid functional overlap with the LPA and clear oversight processes. An NOC cannot be accountable without a clear mandate and oversight structure.

Beyond the allocation of roles, there should be clear goals. From their comparative studies of fifteen NOCs, Victor et al. (2012) concluded that the goals a government sets for its NOC (explicitly or not) are ‘the single most important explanatory of NOC performance.’ NOCs whose government allow them to focus on their commercial oil and gas mandate perform better. The second key element in determining NOC performance is consistency in government-NOC interactions. Government should provide consistent goals and direction for an NOC. It should be able to present a unified system of control for the sector, which reduces uncertainty and gives an NOC a longer planning horizon (Victor et al. 2012).¹²

At present, the lack of political leadership has left the sector paralyzed. Government instability is ranked as the most problematic factor for doing business in Lebanon (WEF 2015). The country ranks in the seventh percentile globally for political stability (World Bank 2014). The introduction of an NOC without clear political reins and direction would certainly lead to governance failures. It may become the pet project of some powerful figures, promoting special interests, rather than the public good. For this reason, it is preferable to delay the establishment of an NOC until a higher threshold of political leadership and broad-based consensus can emerge to guide and control it.

b Enablement to carry out the role

Enablement is a key challenge for most emerging NOCs, as they lack funds to develop their skills. They need to build capacity and technical skills to take on more meaningful roles in the upstream, moving from passive, financial carried, minority equity holders to more active, commercial players with operations. Conversely, when access to funding is not sufficiently controlled, they spend too much on capacity-building (Marcel 2016).¹³ It is therefore important to provide NOCs with a clear financial model that enables them to accomplish the mandate they are given and incentivizes them to control costs.

Another common problem that prevents NOCs from carrying out the role assigned to them is interference in their operations and decision-making. Commercial decisions are frequently influenced by political interference.

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Victor et al.: 2012, 890 & 907.

¹³

NOCAL of Liberia for instance spent \$54,794 per employee per year on training in 2014.

In Lebanon, an NOC would face challenges in terms of staffing decisions, which would likely impact its performance. Lebanon's confessional system is based on a formula allocating political and administrative positions to confessional communities. The Taif Agreement of 1990 maintained this political sectarianism, but aimed to create a more equitable power distribution across confessions (Krayem 1997). We should therefore expect the membership of the board of directors of an NOC to be determined through drawn out haggling between political parties, with the possible nomination of members who are not sufficiently qualified or independent from political masters. Only political leadership, pushing for high standards of professionalism and independence at an NOC would prevent this outcome.

The efficiency of the company's operations will also likely be affected by the practice of patronage and nepotism. There is a high risk that political expectations that an NOC could be a cash cow (though it will be a cost center for many years if created before production begins) will lead to demands on management to hire more nationals. Staffing decisions and (though it is often forgotten) salary determination should be made through a transparent meritocratic process. Professionalism, performance, and meritocracy are values that can be reinforced through corporate culture. The attitude of the state is key to enabling a strong, commercial corporate culture to take root.

c **Transparency and accuracy of information**

Strong reporting, based on clear and independently audited accounts, is critical. In Lebanon, the capacity to keep accounts has been acquired, but the practice has been patchy. National scores on the strength of auditing and reporting standards are moderately good (in the 54th percentile globally), but transparency of government policy-making scores very poorly (7th percentile) and corruption is one of the top factors inhibiting business (WEF 2015). According to the World Bank's Governance Indicators, control of corruption suffered a sharp downturn between 2005 and 2006 and has stayed stubbornly low since then (World Bank 2016). Recent moves to adopt the Extractive Industries Transparency Initiative (EITI) would bring higher standards of disclosure and transparency to Lebanon. These primarily targeted foreign oil company payments to the state, but now also require disclosure of NOC transfers to either the treasury (and vice-versa) or NOC quasi-fiscal expenditures.

However, the EITI process does not bring any light to a space in which corruption thrives: Procurement. Procurement will present a greater risk for corruption once (if) Lebanon reaches the development and production stages. At those stages, an NOC's ambitions and

commercial activities may grow, leading it to take on project management responsibilities as an operator of a field or a processing facility. In this role, procurement decisions would present opportunities for corruption and cronyism. Also, if exploration and production licenses are awarded to oil companies that are not listed in OECD-based stock exchanges, they will not fall under the same burden of legal responsibility regarding corrupt practices. They may be more amenable to paying bribes or to awarding procurement contracts on the basis of political connections. NOC interactions with those companies would present increased risks for corruption (similarly for the LPA).

Exposing corruption, in whichever form it presents, is risky for a whistle blower. He or she must be legally protected from punitive measures by superiors (a whistle blower law can provide such protection). This must be upheld by an independent judiciary. Lebanon ranks poorly in terms of judicial independence in the Global Competitiveness Index (117th rank out of 140 countries). Corporate culture in an NOC, supported by corporate messaging signaling a zero-tolerance policy regarding corruption and procedures for (anonymous) assessment and reporting, can provide some internal controls.

Plainly speaking, corruption can thrive when co-workers and clients are friends or owe each other favors. Patronage increases that tight-knit community in which it is difficult to challenge poor practices or crimes. Introducing processes for meritocratic hiring and promotion is recommended. But an NOC may also benefit from the introduction of outsiders. In order to benefit from an external perspective, Saudi Aramco has maintained a percentage of foreign staff in the company (14%). It also has foreign members on their board of directors: A former chairman of Royal Dutch Shell and Anglo American plc, a former managing director of the World Bank and Chief Executive Officer of the International Finance Corporation, and a former chairman of BG Group plc and chairman and CEO of Schlumberger Ltd. These external voices provide a degree of benchmarking for the company vis à vis external corporate standards. They also limit group think and cronyism.

d Accountability of decision-making and performance

Accountability processes can only be effective when roles of all organizations involved in the petroleum sector are clear and when those responsible for oversight are capable enough to detect good and poor performance. It is therefore crucial, for the sake of accountability processes, that the state is capable and interested enough to audit a company for its financial and operational performance. The bodies responsible for auditing an NOC should have the skills necessary to do so, which includes the capacity to understand what the costs of an

NOC should look like. This also entails an understanding of petroleum sector activities and sufficient experience to compare NOC costs to other companies of similar size in the petroleum sector. The willingness and interest of oversight bodies to carry out their mission depends, once more, on signals given by the political leadership, but also on the professionalism of the agency. Clear performance benchmarks can support accountability processes and the company leadership should be held accountable for meeting or failing to meet those benchmarks.

Lebanon could see improved governance standards with a partial listing of an NOC. A listing on an OECD stock exchange would be more appropriate, considering the small size of the Lebanese capital market, though some shares can be reserved for Lebanese citizens. Even the listing of a minority equity stake of the company can increase transparency across the company's accounts because it will require higher, external disclosure requirements and will add a layer of accountability by bringing in private shareholders. If some of the shares are offered to Lebanese citizens, the process may increase their sense of ownership of the company, and thus encourage them to hold the company to account. A more accountable NOC is a better managed NOC.

IV Conclusion

This paper reviewed possible roles for a new NOC in Lebanon and their appropriateness at various stages of development. It is useful, in conclusion, to reframe the suitability of various roles over the timeline of sector development.

It may be concluded that at the pre-licensing phase, the creation of an NOC is not warranted. An NOC would have little to do. Moreover, the existing legislation does not sanction its establishment, since the Offshore Petroleum Resource Law states that it could be considered 'when necessary and after promising commercial opportunities have been verified.'

Following commercial discoveries, an NOC could legally be established. It could be mandated to manage or to hold minority stakes on behalf of the government, provided a provision is made at licensing for back-in state participation. However, those types of NOCs are unlikely to bring substantial benefits to Lebanon and involve some risks. An NOC as a manager of the state interests (Petoro-type NOC) would not have the technical skills to assess the operators' costs—its main function. As for the commercial upstream NOC model holding minority equity stakes, it also would not have the capabilities or influence to play a meaningful role, one where it would establish itself technically and commercially in the Lebanese upstream. The value of creating these types of companies at the development stage is that they have some years to build their skills before production starts and can learn

with foreign oil company operators how to manage a complex project. The main risk of establishing a company—along the lines of any of these models—is that it would not stay lean, but become a bloated state owned enterprise, doing favors for the ruling elite and providing no benefit to the country. The creation of a modest NOC holding or managing minority equity stakes at the development phase should therefore only be considered if it can be designed to stay lean and focused, if financial controls are put in place to mitigate the risk of it developing into a vehicle for patronage, and if the state's back-in participation can be negotiated according to favorable terms for Lebanon.

Another option during the development phase is to create an NOC to take on a downstream role, in view of facilitating the creation of domestic markets and infrastructure to bring offshore gas to shore. This role could be beneficial to Lebanon, which relies heavily on energy imports to meet domestic demand,¹⁴ but presents significant risks if an NOC is not guided by a clear government strategy for economic development and industrialization and if transfer prices are not market based (as cheap energy inputs would benefit some companies and not others and would be a disincentive for foreign oil company investors). The state should also consider that the private sector is dynamic and capable in Lebanon and investments in infrastructure to gather and process gas from offshore facilities could be made by local private companies, supported by an enabling environment for investment (e.g., fiscal incentives, clear policy and pricing signals, and early information on the petroleum project's expected supply). An NOC would also need to operate with high standards for disclosure and transparency to ensure broader accountability.

At the production phase, an NOC could be established to take on any of the above roles, as well as marketing the state's share of oil or gas and maximizing in-country value. An NOC could rely on a share of petroleum revenues for its expenditure, which means it would not have to be a burden on the state budget. However, it would be reducing the 'state take' (share of revenues from production going to treasury) and the government should consider carefully what NOC role is beneficial to the country, in relation to other state goals. The ambition or scope of an NOC's mandate would also have to be guided by the size of the resource base and the capacity of the state to hold an NOC to account. In early production, some countries have let unrealistic expectations of oil revenue flows shape their decisions about NOCs' future roles. With greater revenues, NOCs grow in capacity and the state must build its own capacity to hold it to account.

For the sake of discussion, this paper has presumed that the development of the resource would proceed in Lebanon and that

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In 2010, the country imported 120,000 barrels per day of refined oil products, which accounted for over 90% of total primary energy demand in the country.

discoveries will be made and produced. In reality, the political and market backdrops are not favorable to the timely progress of the resource base. The absence of political leadership and policy paralysis have stalled the licensing round, with no political majority able to sanction it and enable the process to move forward. Meanwhile, the oil price has fallen, bringing exploration efforts to a halt—especially in areas presenting higher political and/or geological risk. And of course, there is never an assurance of discoveries. Exploration is a very high-risk enterprise and discoveries in the neighbor's acreage offer no guarantees in other countries.

Finally, the governance risks are real. We have reviewed processes and rules that can help to mitigate some of these risks. But, as we saw, many of these processes depend on strong political leadership, and without it, it will be difficult to drive a process to a higher standard.

Authored References

Abi Hydar, A. 2015. *نفت لبنان في البحر والبر... والمشكلة في مكان آخر*. Al Joumhouria, June 12.
<http://www.aljoumhouria.com/news/index/238553>).

England, A. 2015. 'Mozambique strives to get liquefied natural gas projects online.' *Financial Times*, November 23.

Krayem, H. 1997. *The Lebanese Civil War and the Taif Agreement. Conflict Resolution in the Arab world: Selected Essays*. American University of Beirut.

Lahn, G. and P. Stevens. 2014. "Finding the 'Right' Price for Exhaustible Resources: The Case of Gas in the Gulf." Chatham House Research Paper.
<https://www.chathamhouse.org/publication/finding-right-price-exhaustible-resources-case-gas-gulf#sthash.I50JFJJ7.dpuf>

Lahn, G., V. Marcel, J. Mitchell, K. Myers, P. Stevens. 2007. 'Good Governance of the National Petroleum Sector: The Chatham House Document.'
<https://www.chathamhouse.org/publications/papers/view/108469>

Manley, D. and K. Myers. 2015. 'Did the UK Miss Out on £400 Billion Worth of Oil Revenue?' Resource Governance Institute, 5 October
http://www.resourcegovernance.org/blog/did-uk-miss-out-£400-billion-worth-oil-revenue#_ftn2

Marcel, V. 2016. 'The Cost of an Emerging National Oil Company.' Chatham House Research Paper.
<https://www.chathamhouse.org/publication/cost-emerging-national-oil-company>

Marcel, V., R. Tissot, A. Paul, E. Omonbude. 2016. 'A Local Content Decision Tree for Emerging Producers.' Chatham House Research Paper.
<https://www.chathamhouse.org/about/structure/eeer-department/new-petroleum-producers-discussion-group-project>

McPherson, C. 2008. 'State Participation in the Natural Resource Sectors: Evolution, Issues and Outlook.' IMF Conference Paper.
<http://www.imf.org/external/np/seminars/eng/2008/taxnatural/pdf/mcpherson.pdf>

Nuvunga, A. 2015. Government Negotiates Problematic Terms with Anadarko: 'Carry' for ENH & Gas for the Domestic Market Short of Needs.' Centre for Public Integrity.
http://www.cip.org.mz/cipdoc/416_CIP-spinformacao_2015_17_en.pdf

Victor, D., D. Hults, M. Thurber. 2012. 'Conclusions and Implications for the Oil Industry's Future.' in *Oil and Governance: State-Owned Enterprises and the World Energy Supply*, Victor, Hults & Thurber. Cambridge.

Non-Authored References

Chatham House. 2016. 'Guidelines for Good Governance in Emerging Oil and Gas Producers 2016.'

<https://www.chathamhouse.org/about/structure/eeer-department/new-petroleum-producers-discussion-group-project>

GNPC. 2015. 'Adapting Expenditure Plans in Response to Falling Oil Prices.' Presentation at the New Petroleum Producers Discussion Group, Dar Es Salaam.

GNPC. 2016. 'An NOC with Operator Ambitions.' Presentation at the New Petroleum Producers Discussion Group, Naivasha, Kenya.

KCSPOG. 2016. 'Potential Government Revenues from Turkana.' Discussion paper. [http://kcs pog.org/wp-content/uploads/2016/04/Revenues-from-Turkana- Oil-April-2016.pdf](http://kcs pog.org/wp-content/uploads/2016/04/Revenues-from-Turkana-Oil-April-2016.pdf)

Interview with CHC - Professor Toula Onoufriou, President. 2014. 3 October. <http://www.energyboardroom.com/interviews/chc-professor-toula-onoufriou-president-cyprus>

Middle East Strategic Perspectives. 2016. 'A National Oil Company for Lebanon? A Premature and Incomplete Debate.' May 11. <http://www.mesp.me/2016/05/11/national-oil-company-lebanon-premature-incomplete-debate/>

Ministry of Finance, Government of Cyprus. 2015. Budget Law N.57(II)/2014. [http://www.mof.gov.cy/mof/mof.nsf/All/01819C82556FDB7DC2257D730026C641/\\$file/Budget%202015.pdf](http://www.mof.gov.cy/mof/mof.nsf/All/01819C82556FDB7DC2257D730026C641/$file/Budget%202015.pdf)

Oman Oil Company Exploration & Production LLC. 2014. 'Annual Report' http://www.oocep.com/wp-content/uploads/2015/2014_OOCEP_Annual_Report.pdf


Petoro. 2015. 'About Petoro.' <https://www.petoro.no/about-petoro>

The Arab American News. 2005. 'A practical solution to Lebanon's oil and gas dilemma.' February 18. http://www.arabamericannews.com/news/news/id_10102/cid_4/A-practical-solution-to-Lebanon's-oil-and-gas-dilemma.html

World Bank. 2016. 'Worldwide Governance Indicators.' <http://info.worldbank.org/governance/wgi/index.aspx#reports>.

World Economic Forum. 2015. 'Global Competitiveness Report 2015.' Country/Economy Profiles: Lebanon, <http://www3.weforum.org/docs/gcr/2015-2016/LBN.pdf>

WEF Global Competitiveness Index, Lebanon. 2015.



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