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LOCAL CONTENT POLICIES IN THE PETROLEUM INDUSTRY: LESSONS LEARNED

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Table of Contents

Abstract

Natural resources like oil and gas are valuable commodities for a host nation because they can directly contribute to the economic well-being of that nation and indirectly enhance that nation's economic standing, security

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of supply, and national energy security. However, the expertise and technology required to effectively explore petroleum resources and to exploit them are often beyond the reach of the relevant host nation, particularly where high initial capital expenditure or highly specialized methods of extraction are required.

Foreign entities such as international oil companies (IOCs) may have access to equipment, expertise, and financial resources the host nation may currently lack and/or not be willing to "risk". Importing these indispensable development tools, however, often diminishes the net value the host nation could otherwise have realized from the underlying assets. In response, the host government may seek to adopt "local content" policies aimed at capturing some of the business activities (and the value created through them) that would otherwise need to be imported.

This paper explores the development and implementation of local content policies in the petroleum industry; compares and contrasts policy choices implemented by nations such as Brazil, Nigeria, Norway, and the United Kingdom; and looks at the impact these policies have had and are having on economic development in the countries that adopted them. Finally, it examines modern-day areas of challenge and concern for developing countries that seek to design and implement their own local content policies.

I. Introduction[1]

Oil and natural gas[2] are critical commodities, currently meeting more than half of the world's needs for primary energy consumption.[3] Petroleum resources are expected to remain the dominant fuels for the global economy

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1. "Everybody looks at oil and almost entirely forget that the percentage of jobs the oil sector creates is relatively small compared to the population; the introduction of more sophisticated exploration methods makes it even worse.*"* Emi Ayalla, quoted by S. Kamal Hayder Kazmi, *Leadership and Business Wisdom*, PAKISTAN AND GULF ECONOMIST (February 11, 2018) http://www.pakistaneconomist.com/2017/08/28/leadership-business-wisdom-35/. In addition, this paper is based on the authors' own research and the key findings from Eduardo G. Pereira, Tonje Gormley (eds), *Local Content for International Petroleum Industry* (Pennwell, 2018).

2. These commodities are referred to collectively in this paper as "hydrocarbons" or "petroleum."

3. In 2015, oil and gas accounted for roughly 55% of the world's primary energy consumption. This amount has remained relatively consistent for more than a decade. WORLD ENERGY COUNCIL, *World Energy Resources | 2016* at 4 (2016) https://www.worldenergy.org/wp-content/uploads/2016/10/World-Energy-Resources-Full-report-2016.10.03.pdf.

through at least 2040,[4] and procuring these resources is serious business as this sector accounts for roughly five percent of world GDP.[5] Yet, despite their currently indispensable status for the global economy, hydrocarbons do not automatically confer wealth on the people of the host nations where they are found. On the contrary: according to a 2013 study by the World Bank, the petroleum sector typically gives rise to far fewer backward economic links[6] compared to other economic sectors.[7] Although the petroleum industry can generate much wealth, such wealth does not typically spread through the host nation's economy as readily as that created by other industries.[8]

Extraction of oil and natural gas typically requires significant investments of capital, technology, and expertise. Host nations starting to develop their petroleum resources may lack some or all of the instruments to undertake such investments themselves (including, for example, suitably qualified local expertise and locally produced goods), forcing them to rely on outside support from foreign or international companies for these.[9] This, in turn, can create social and political unrest in the host nation as wealth from the nascent petroleum industry may well end up in foreign hands more readily than benefitting the development of a local economy. The same concern might also exist in well-developed petroleum nations that may lack the necessary skills, technology and/or infrastructure for job creation at a national level as these nations tend to rely on foreign support to a different extent and in a different manner. In part to counteract this risk, the host nation may develop "local content policies" (LCPs) to try to capture more

4. International Energy Agency, *World Energy Outlook 2017*, INTERNATIONAL ENERGY AGENCY (2017) https://www.iea.org/weo2017/.

5. Depending on the figures used for world GDP, petroleum drilling accounts for 4.6% to 6.5% of global GDP. Investopedia, *What percentage of the global economy is comprised of the oil & gas drilling sector?*, INVESTOPEDIA (Sep. 10, 2018) https://www.investopedia.com/ask/answers/030915/what-percentage-global-economy-comprised-oil-gas-drilling-sector.asp.

6. Backward economic linkage relates to a product that is being created in stages and refers to the positive effect an increase in production further down the line of fabrication or assembly has for the producer/manufacturer further up that chain (cf forward linkage, where the initial production is intended to strengthen investment in later stages of the manufacturing process).

7. Silvana Tordo, Michael Warner, Osmel E. Manzano, and Yahya Anouti, *Local Content Policies in the Oil and Gas Sector*, 3-5, THE WORLD BANK (2013) http://documents.worldbank.org/curated/en/549241468326687019/pdf/789940REVISED000Box377371B00PUBLIC0.pdf.

8. *Id.* at 7.

9. *Id.* at 9-10.

wealth for itself.[10] Such policies can be an important part of the petroleum business; but what are they, and how do they work?

A. What is local content?

The *Financial Times* describes local content as "the materials, parts etc. that have been made in that country rather than imported. A minimum level of local content is sometimes a requirement under trade laws when giving foreign companies the right to manufacture in a particular place."[11] While there is no universally-accepted definition of this term in the petroleum industry, "local content" or "national content" can be thought of as the added value that petroleum activities bring to a host nation in addition to the direct revenues obtained through sales of hydrocarbons belonging to the government of that nation or from taxes, service fees, state participation, or dues collected from companies carrying out upstream activities in that nation.[12] This is the working definition used throughout this paper.

B. What are LCPs?

LCPs are policies created to promote the use of local content in an industry that might otherwise turn to foreign sources for goods and services. LCPs seek to attract investors into the relevant host nation industry (aiming for higher efficiency and possible lower costs in the future), while, at the same time, putting these potential investors on notice as to the minimum level at which they would be required to source products and services locally and/or work with local companies, if they chose to invest. There will always be goods and services that may be uneconomical or unfeasible to locally produce or develop at least at a certain stage: examples range from agricultural produce to support industry workers in countries where the climatic conditions are unfavorable and may therefore require continued importation of foodstuffs, to high-tech or capital-intensive tools that cannot be produced solely through domestic construction, like floating production

10. *See e.g.*, Damilola S. Olawuyi, *Local content and procurement requirements in oil and gas contracts: Regional trends in the Middle East and North Africa*, at 6-7 THE OXFORD INSTITUTE FOR ENERGY STUDIES (2017) https://www.oxfordenergy.org/wpcms/wp-content/uploads/2017/11/Local-content-and-procurement-requirements-in-oil-and-gas-contracts-regional-trends-in-the-Middle-East-and-North-Africa-MEP-18.pdf.

11. FINANCIAL TIMES, *Lexicon*, http://lexicon.ft.com/Term?term=local-content.

12. *See e.g.*, John C. Anyanwu, *Local Content in the Hydrocarbon Sector: Lessons of Experience*, Mozambique Coal and Gas Seminar in Maputo, Mozambique, (February 27-28, 2013).

storage operating (FPSO) units, as Brazil discovered.[13] As we will see throughout this paper, there are many factors that may affect a given country and a fine and intricate balance needs to be struck to decide its most sensible and sustainable LCPs.

LCPs include policies to encourage training and employment of host country nationals within the industry, as well as investment in developing and procuring local goods and services, and "transfer" of technology through assistance, investment, licensing, trade and/or training.[14] Although Corporate and Social Responsibility (CSR)[15] is directly connected to LCPs, they have different objectives and CSR will not be analyzed in this paper. In addition, LCPs might also be designed to facilitate and promote participation of state- and/or privately-owned "indigenous" companies together with foreign entities in the petroleum activities of the relevant host nation.

C. Why do countries adopt LCPs?

The reasons countries seek to encourage (and often require) the development and use of local content are as varied as the countries themselves. In general, however, it can be said that LCPs are perceived to be a way of promoting investment in, and the economic growth of, the host nation. They are meant to create jobs for local nationals in the petroleum activities and to further the development of entire new industries, such as banking, power generation, manufacturing or telecommunications, as well as to build technological capabilities for the host nation. LCPs seek to ensure the highest possible rate of domestic employment, strengthen the local economy, and help the host country become less reliant on foreign capital and expertise. In this sense, it is crucial to develop and support

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13. See note 129 for further details.

14. International Petroleum Industry Environmental Conservation Association (IPIECA), *Local content strategy: A guidance document for the oil and gas industry*, (available for download at http://www.ipieca.org/resources/good-practice/local-content-strategy-a-guidance-document-for-the-oil-and-gas-industry-1st-edition/).

15. Financial Times, *Definition of corporate social responsibility*, http://lexicon.ft.com/Term?term=corporate-social-responsibility--(CSR) ("[m]ovement aimed at encouraging companies to be more aware of the impact of their business on the rest of society, including their own stakeholders and the environment. [It] is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders. CSR is a concept with many definitions and practices. The way it is understood and implemented differs greatly for each company and country.").

Small and Medium Enterprises (SMEs)[16] as they should be a relevant part of local content development.

There have been very few examples of host nations that, on finding petroleum resources in their territory for the first time, were able to draw on an existing industrial/manufacturing base and immediately direct and expand that base towards petroleum exploration and exploitation. This has particularly been true of certain offshore operations where existing shipping and maritime experience and infrastructure was available to support offshore operations, as was the case, for example, in the North Sea. However, most nations cannot count on the existence of such infrastructure and/or related industry to develop their oil and gas resources which increases the risks and complexities for all relevant stakeholders.

Due to oil and gas exploration tending to be a high-risk capital-intensive activity, it is common for the host nation to draw on international assistance, experience, and financing to develop their petroleum resources. Given the dominance of established IOCs, high capital intensity and sophistication of often cutting-edge petroleum technology, specialized services and highly trained staff that are required to undertake these types of activity, emerging petroleum provinces will, at least at the outset, nearly always depend on foreign expertise. Some of these provinces may later find it difficult to move away from such dependency.[17]

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16. Organization of Economic Co-operation and Developent, *Small and Medium-Sized Enterprises (SMEs)*, https://stats.oecd.org/glossary/detail.asp?ID=3123 ("non-subsidiary, independent firms which employ fewer than a given number of employees. This number varies across countries. The most frequent upper limit designating an SME is 250 employees, as in the European Union. However, some countries set the limit at 200 employees, while the United States of America considers SMEs to include firms with fewer than 500 employees. Small firms are generally those with fewer than 50 employees […]. Financial assets are also used to define SMEs.").

17. U. Klueh, G. Pastor, A. Segura and W. Zarate, *IMF Working Paper on Inter-sectoral Linkages and Local Content in Extractive Industries and Beyond – the Case of São Tomé and Príncipe*, at Appendix II INTERNATIONAL MONETARY FUND (2007) https://www.imf.org/external/pubs/ft/wp/2007/wp07213.pdf. The case of Norway is an example of the law initially recognizing that foreign investors and their expertise were required but being selective as to their suitability. HK Nordås, E. Vatne and P. Heum, *SNF Report No. 08/03 – The upstream petroleum industry and local industrial development. A comparative study*, at 63 INSTITUTE FOR RESEARCH IN ECONOMICS AND BUSINESS ADMINISTRATION (2003) https://brage.bibsys.no/xmlui/bitstream/handle/11250/164495/R08_03.pdf?sequence=1.

As noted above, revenue from petroleum operations[18] may be quite substantial but this does not automatically lead to the creation of significant local employment or value-added opportunities.[19] Nonetheless, sovereignty over natural resources tends to vest in the nation where those resources are located[20] and governments may well experience pressure from their citizens to translate that sovereignty into tangible benefits for the nation at large. Put simply: people may reasonably believe they deserve a major share of the economic gain derived from their national resources and expect their government to get it for them.

Due to its importance, this sentiment often shapes a host government's approach to revenue management (*i.e.*, the way in which the host nation will use the revenues it collects from the oil and gas industry). Although such revenue management may be essential for the welfare of the state and its citizens, this paper does not address this aspect as it falls outside the scope of LCPs. Nevertheless, readers should be aware that LCPs are a frequently-chosen vehicle for achieving some revenue management goals, as well as more traditional capacity building. In light of the broad scope of potential uses for LCPs, it is not surprising that an estimated 90% of resource-rich nations have turned to such policies at one point or another.[21]

Another rationale for implementing LCPs, particularly in developing countries, is to provide protection for newly-established petroleum industries and related enterprises to develop while being sheltered from the rigors of international competition.[22] Sometimes, the justification offered is the purported need of the host nation for time to master advanced technologies; at other times, it may be a desire to counteract subsidies provided to established international industries that are supported or

18. For example, including bonuses or fees for rights to explore and develop the resources, direct participation in the petroleum contracts, taxes on the petroleum activities themselves, and profits from sale of the state's share of production, if any.

19. Tordo, *supra* note 7, at 23-26.

20. This principle has evolved through a series of UN resolutions on resources and related issues from the 1950s onward, including the Declaration on Permanent Sovereignty Over Natural Resources (Resolution 1803 (XVIII) of 14 December 1962, UN Doc A75217 (1962), 2ILM (1963), p. 223), the Declaration on the Establishment of a New International Economic Order (3 Resolution 3202 (S-VI) of 1 May 1974, UN Doc. A/5217 (1962), 2ILM (1974), p.715), and the Charter of Economic Rights and Duties of States (Resolution 3281 (XXIX) of 12 December 1974, UN Doc. A/9631 (1974), 14 ILM (1975), p. 215).

21. Olawuyi, *supra* note 10, at 1.

22. *Id.* at 5; *see also* Tordo, *supra* note 7, at 24.

sheltered by their own countries of origin.[23] The success of local industries can allow a host nation to become independent of expensive imports that would otherwise be needed. Absent a preference for local content, much of the potential value a host nation may otherwise gain from its nascent petroleum industry could be lost, as such value would leak through petroleum companies paying third parties or countries for equipment, expatriates, and other goods and services brought in from abroad. Thus, LCPs can, at least in theory, increase efficiency in the petroleum sector, improve the host nation's overall balance of payments, and mitigate the burden on foreign currency that reliance on external sourcing often entails.[24]

LCPs may also be seen as a way to broaden the host nation's economic base: requiring international companies to purchase goods and services from local businesses gives those businesses revenues with which to expand, modernize, and diversify. This, in turn, can enable the host nation to weather the effects of a sudden fall in international commodity prices that might otherwise lead to crippling losses, particularly where export revenues for domestic resources decrease while their cost of production remains the same.[25] By encouraging expansion and diversification, LCPs can hasten the nation's overall economic development, thereby helping to alleviate the effects of the so-called "Dutch disease" in which rapid growth in the natural resource sector overwhelms other sectors of the domestic economy.[26]

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23. Sherry Stephenson,. *Addressing Local Content Requirements in a Sustainable Energy Trade Agreement*, at 4 INTERNATIONAL CENTRE FOR TRADE AND SUSTAINABLE DEVELOPMENT (Jun. 2013) https://www.ictsd.org/downloads/2013/06/addressing-local-content-requirements_opt.pdf.

24. In Nigeria, for example, industry experts estimated that before LCPs were put in place, "up to 90 percent of capital input went overseas via equipment purchases, consulting and service fees and expatriate wages." Ugo Nwokeji, *The Nigerian National Petroleum Corporation and the Development of the Nigerian Oil and Gas Industry: History, Strategies, and Current Directions,* at 44 BAKER INSTITUTE FOR PUBLIC POLICY (2007) http://www.bakerinstitute.org/media/files/page/9b067dc6/noc_nnpc_ugo.pdf.

25. *See e.g.*, INTERNATIONAL MONETARY FUND, Presented at the Annual Meeting of Arab Ministers of Finance in Manama, Bahrain (Apr. 2016), https://www.imf.org/external/np/pp/eng/2016/042916.pdf.

26. Klueh, *supra* note 17, at 6; *see also* Sunny Oputa, *Local Content: A Vehicle of Hope or an El Dorado*, ENERGY & CORPORATE AFRICA (2013) https://www.energycorporateafrica.com/local-content---a-vehcle-of-hope--or-.

D. What can be learned from the experience of nations with LCPs?

This paper will proceed with an examination of key considerations in LCPs, including goals, definitions and methods used. It will look at the outcomes experienced by nations generally regarded as pioneers in LCPs, including the United Kingdom, Norway, Nigeria and Brazil, as well as the experiences of developing oil and gas producers like Angola, Indonesia, and Kazakhstan who have been eager to design and implement LCPs of their own. Finally, this paper analyzes ongoing concerns and challenges for LCPs in developing countries, identifying those elements that have proven to be of value in their design and implementation and those that have not. In short, this paper aims to provide the background information as well as key lessons learned for any country which is currently considering whether to adopt or modify LCPs within its own jurisdiction.

II. Key Considerations for LCPs

A. What are the host nation's current resources and prospective needs?

Policymakers considering LCPs should start with a frank assessment of the host nation's wider resources and needs. A nation that already has a highly developed industrial infrastructure, for example, will have different capabilities and resources available than a nation transitioning from a largely agrarian economy. The former might set ambitious targets for rapid local participation in petroleum activities whereas the latter may be better served with policies emphasizing more foundational steps, like construction of roads and port facilities and training in industrial operations and management. The examples of the United Kingdom (UK) and Angola are illustrative in this respect. When development of the North Sea petroleum fields began in earnest in the 1970s and 1980s, the UK already had major ports, roads, and a large and relatively underutilized industrial work force available to support the new sector and to capture a larger share of the value-added activities than might have otherwise been possible. Angola, on the other hand, began the build-up of its petroleum industry from a far different position, having, at that point, only recently emerged from several decades of civil war. Beset by widespread poverty, Angola inevitably had differing needs for local participation.[27]

Similarly, the host country should consider the extent and potential of its oil and gas resources. Does it appear that there are sufficient oil and gas

27. The examples of the UK and Angola are discussed in more detail in the sections that follow.

reserves (or good prospects for future finds) to support a significant long-term domestic supply and/or export business? If so, planners may want to focus on building a domestic petroleum industry and other related sectors to take full advantage of these long-term prospects and/or any export opportunities. If not, it may be more prudent for that country to focus on LCPs that bolster short-term benefits for its petroleum industry (i.e. increase foreign investments) but also on LCPs that enhance other industries with a potentially long-term effect.[28] On the other hand, if the host nation's energy resources are small or its foreign supplies of petroleum insecure, it may wish to focus on matching its petroleum production to its domestic consumption in order to lessen the impact of fluctuations in world prices for the petroleum it would otherwise have to import. LCPs for a prospective petroleum exporter will likely be very different from those of a host nation whose immediate objective is to meet its domestic petroleum needs. For example, Norway historically aimed to reduce its internal oil and gas consumption by increasing the development of renewable energy sources for domestic use. This enabled Norway to export the maximum amount of oil and gas and establish itself as a reliable supplier while using domestic hydropower to satisfy its local energy demand. A different strategy could have been used, had Norway been keen to export petroleum products to harness the added value but this would have required further investments in its refining and petrochemicals capacity first.

B. What does the host country seek to achieve?

The previously-cited World Bank study on LCPs stresses the importance of clearly-defined and realistic objectives.[29] Other commentators have noted that a lack of clarity in a host nation's assessment of its objectives ultimately risks a misalignment between these objectives and the policies intended to attain them.[30] Setting objectives requires careful evaluation of current conditions to reveal areas where the host nation needs improvement, and an unsentimental assessment of whether it has the necessary physical, economic, and human resources. For example, the level of experience and capabilities of host nations seeking to exploit their first petroleum discoveries will likely differ from those nations where petroleum development or production is already underway. Host nations with no or few domestic business entities devoted to supporting or participating in

28. *See* Tordo *supra* note 7, at 9.
29. *Id*. at xvii.
30. *See e.g.*, Olawuyi, supra note 10, at 3, 11.

petroleum activities will likely require different LCPs from those countries where petroleum activities have already begun.[31]

A country with a relatively low level of industrial development may seek to first improve its educational system, physical infrastructure, and political and economic environment in order to foster local industry that can participate in petroleum activities. As the host nation's petroleum industry and supporting businesses and institutions mature, it may seek more involvement of the local workforce in management and executive positions of foreign companies. This, in turn, can give local nationals the experience needed to lead the local petroleum industry to a level at which it can compete on an international stage. Some countries, like Norway, have used LCPs to build up their national research and development (R&D) capabilities so that they can compete effectively in the future.[32]

Above all, LCPs should be dynamic: over time, policies should evolve to meet the changing circumstances of the host nation. This must, however, be weighed against the need to provide stability and certainty to attract potential investors. Host nations whose LCP regimes are plagued with uncertainty or excessive requirements may find that investment is harder to get as a result. Countries seeking to craft LCPs must be prepared not only to clearly define what it is they want to achieve and be cognizant of how their aspirations will evolve over time, but also consider the policy frameworks (e.g. by means of legislation, regulation or contract) that will provide the right blend of flexibility and stability.[33]

C. How will the host country measure local content and audit its compliance?

Another important consideration is what exactly the host nation means by "local content." Not surprisingly, the answer may vary between nations, or even within the same nation, depending on context. "Local hire" requirements may be a key part of the policies; and for a nation suffering from widespread unemployment, hiring any citizen of the host nation may be enough to count towards fulfilling such requirements. If, however, the host government seeks to encourage economic development in a particular area, a more specific and limited definition may be used in which "local" means a resident of the targeted region. The term "national content" may be preferable where a reference to the nation as a whole is favored over

31. *See* Tordo, supra note 7, at 3.
32. The Norwegian experience is discussed in more detail below.
33. Olawuyi, supra note 10, at 10.

specific subnational regions, however, this is not the commonly used terminology.

Host nation expatriates living abroad pose special questions: would hiring such persons satisfy the requirements? If they remain abroad, they may not add as much value (in the form of taxes, spending, and social contact) as a national living in the host nation. How would that analysis differ, if the host nation expatriate returned home? On the one hand, hiring a returning expatriate will not produce a net reduction in local unemployment but encouraging the return of highly-skilled workers to the host nation may still be worthwhile to the extent it helps improve the overall labor pool (for example, by making such workers available to other developing industries in that country). LCP local hire requirements can thus be used to reverse so-called "brain drain" by providing a reason for such workers to repatriate themselves.[34] The definition of "local" can be used creatively to encourage host nations to set goals that may not be immediately obvious.

Similarly, when an IOC is required to contract with local companies or be present "locally", the host nation government must decide what businesses will qualify. Is mere physical presence in the host nation enough to make a business "local?" If so, how much "presence" in country is necessary? Legal residence or place of incorporation, for example, are reasonably easy to determine; but would they suffice? Perhaps the *situs* of the "local" company headquarters or its principal business activities would be a better measure. Ownership may be a key criterion: some countries, like the Philippines, permit their governments to make agreements for natural resource development only with host nation citizens, or companies whose capital is controlled by such citizens.[35] However, that raises again the questions as to what amounts to a "citizen?" Is it enough to be a host nation passport holder, or does it require tax residence in the host country, or both?

If being "local" is merely determined by location, this may lead to another issue if the purportedly local business turns out to be no more than

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34. Michael Oluwagbem, *Local content, diaspora ability & global capabilities*, THE WORLD BANK (Nov. 17, 2010) https://blogs.worldbank.org/youthink/local-content-diaspora-ability-global-capabilities.

35. In the Philippines, for example, companies entering into co-production, joint venture, or production-sharing agreements must be at least 60% owned by Filipino citizens. CONST. (1987), art. XII, § 2 (Phil.). In addition, Angola and Nigeria possess similar rules referring to a controlling interest by their own nationals and/or companies. *See*: Eduardo G. Pereira, Tonje Gormley (eds), *Local Content for International Petroleum Industry* (Pennwell, 2018).

a representative office of a foreign company that outsources all its activities to affiliates or other businesses abroad, adding little or no value to the host nation economy. This is why it is important to understand, for example, where products are being manufactured, developed and assembled as these steps should lead to a higher level of employment in and added value to the host nation. It is also important to understand the different stages of an oil and gas business and how it works in a practical manner in order to estimate where the maximum number of local jobs and employment can be found. For example, IOCs are less likely to undertake the majority of the petroleum operations by themselves but rather outsource such activities to third parties. Therefore, a higher focus on the IOCs instead of services contractors may add less value from an employment perspective. The proportion of local nationals employed in a business work force, or the role they play in its management, might also be used to determine whether inclusion of an ostensibly local business is sufficient to meet the host nation's requirements.[36] These are, of course, just some of the considerations that may be utilized by a host government in mapping out a definition of "local."

Similar issues arise when determining whether LCPs are being complied with or are meeting their designed goals. As a general proposition, the clearer the metrics employed, the easier it will be to monitor and enforce most policies; but metrics are not always just neutral measures of compliance or success. Metrics used to measure local content might include the (1) number of local employees hired, trained, or promoted; (2) monetary value of goods and services purchased locally by the international company; (3) participation of local companies in the relevant activities; (4) involvement of local institutions in R&D activities; or by other means such as the development and/ enhancement of other sectors (e.g. the shipping industry). A company's employment strategies to meet a local hire quota, however, may vary significantly depending on whether the quota is based on total headcount or total payroll. As some commentators have noted, "often, metrics ultimately drive company and regulator behavior."[37]

These metrics may need to be dynamic: in other words, they may need to be adapted as petroleum activities within the host country move from exploration through development to production. In some countries, particularly those whose hydrocarbon potential is not yet fully known, these activities will of course be gone through again as each new deposit is

36. Tordo, *supra* note 7, at 2-3.
37. *Id.* at 65.

mapped out and developed.[38] One of the critical challenges will be verifying compliance: how will the foreign investor (and host nation government) know if they are actually complying with the relevant regulations and contractual obligations? Especially in host countries with little experience in petroleum production, or whose educational infrastructure is not geared toward industrial activities, it can be challenging to employ the number of personnel necessary to verify compliance.

Many host governments tend to rely on the information provided by the IOCs; Brazil, on the other hand, developed a certification system which helps the industry and the Brazilian government assess compliance of the relevant metrics agreed in the host granting instruments.[39] There are certain companies recognized by Brazil's national petroleum agency who can certify the precise amount of local content that is embedded in each good or service acquired for the relevant projects. In that way, this process facilitates the regulators' monitoring task and provides more certainty for the oil and gas companies as they know sooner rather than later whether and to what extent they are compliant with the given regulations and their contractual commitments.

In any case, LCPs should be targeted at each country's needs and expectations. For example, in Brazil local employment or training is less likely to be an issue as the petroleum industry has been well developed for many decades and IOCs can easily find local and well experienced people to staff their company. It is cheaper and more efficient than hiring expats and this is why it is less common to find expats working in Brazil along with complex foreign work visa regulations. However, certain technologies and/or equipment might be a key issue to develop the petroleum industry in Brazil as they are not easily available locally. This is also the case in Iran which manages to produce quite well its oil and gas reserves but faces a number of difficulties in increasing the recovery from its fields without external support of foreign technology like fracking and pumping. By contrast, new petroleum provinces like Senegal or Guyana are less likely to be able to rely on their national work force to staff any petroleum company locally so these countries are more likely to add higher emphasis on training and local work force in comparison to Brazil or Iran.

38. *Id*. at 2-3.

39. Information concerning the Brazilian program is available online at the website of the National Agency for Petroleum, Natural Gas and Biofuels (available online at http://www.anp.gov.br/wwwanp/exploracao-e-producao-de-oleo-e-gas/conteudo-local/certificacao-de-conteudo-local) (last accessed January 17, 2019).

D. How will LCPs affect petroleum companies in the host nation?

LCPs can apply to any industry but pose special challenges for the petroleum sector: IOCs accustomed to working within a complex web of logistics and suppliers which they have built up over time may be required by such policies to deal with unfamiliar and sometimes less experienced local "partners." The petroleum industry relies heavily on advanced technology, well-trained personnel, and carefully planned and sequenced activities. Involvement of new and untested parties in the supply chain tends to add risk: adjusting to unfamiliar local business practices can disrupt previously smooth-running processes, imposing delay and corresponding costs. Depending on their prior experience, the overall strength of the host nation's educational system and other factors, local participants in petroleum activities may initially be less efficient than their international counterparts.[40] Even in countries where LCPs and participants are well-established, such policies can still entail inefficiency and higher costs. The Brazilian General Accounting Office, for example, has concluded that that nation's LCPs add costs and delays to petroleum activities within its jurisdiction which, in turn, discourage investment and indirectly limit revenues that would otherwise have been available to the Brazilian state.[41]

Despite these potential pitfalls, LCPs can offer benefits to the petroleum industry. Although oil and gas activities are characterized by their reliance on technologically advanced equipment and operations, there is always need for unskilled labor. This is particularly true in areas such as transportation and the distribution and provision of unsophisticated or low-tech supplies like food and water that are essential to petroleum operations and can be locally sourced at a saving over import costs.[42] Developing a local supply ecosystem can save shipping and import costs, thereby producing immediate economic benefits, and promote competition that will lead to additional savings over time. Capacity-building investments such as the development of local suppliers and training programs (including but not limited to mastering skills to comply with procurement requirements, adding their profile into different databases from oil and gas companies, etc.) for the domestic workforce, which are often LCP requirements, can increase the local supply of suitable labor and reduce reliance on expatriate

40. Klueh, *supra* note 17, at 18.

41. TCU decision no. TC 030.511/2015-1 Group I, Class V, Plenary (3072–2016), paragraph 256.

42. Tordo, *supra* note 7, at 12-13.

employees who generally command higher wages. It is equally important to provide funds and affordable financing options for SMEs, otherwise it will be difficult for such "local" entities to comply with the required standards and be able to compete.[43] Moreover, business consultants suggest that companies that overcome the "compliance mindset" and see LCPs as an opportunity rather than a hindrance can set themselves apart from other firms and reap the benefits of good host government relations:

More broadly, a successful local content program can improve relations with local governments, leading to a smoother cost recovery process, preferential access to additional licenses and projects, and a reduced risk of industrial or social unrest. Finally, it can promote the development of a sustainable relationship with the country, enabling the company to plan for the long term.[44]

While this may seem an overly-optimistic outlook, a prudent investor will always look to use the local legal environment to its advantage, just as it would do with the relevant aspects of the physical and economic environment. Doing so, however, requires a relatively stable regulatory regime within the host country: similar to other laws, if LCPs are unclear, conflicting, or subject to frequent change, the resulting uncertainty may reduce investor interest or confidence and curtail the availability of funds for future development in that host nation.

To the extent LCPs promote fulfilment of public expectations about reasonably prompt and tangible benefits from the development of the host nation's resources, they may also help to stabilize the domestic

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43. To address this situation, Nigeria, for example, created a local content development fund which is sponsored by the oil and gas companies through their upstream contracts in accordance with the country's local content laws. Seun Adeye, *1% local content fund: EFCC to go after defaulting companies*, PULSE (Nov. 2, 2018) https://www.pulse.ng/news/local/1-local-content-fund-efcc-to-go-after-defaulting-companies-sen-adeola/hvex3n1. Mexico followed a similar path creating a governmental fund for the same purpose. Miriam Grunstein and Cybele Diaz-Wionzzek, *Local content in the petroleum industry – Mexico*, BAKER INSTITUTE FOR PUBLIC POLICY (Feb. 2017) https://www.bakerinstitute.org/media/files/files/c43bd724/MEX-pub-LocalContent-020817.pdf. However, the mere existence of such funds may not be sufficient as SMEs may face challenges accessing them and therefore further involvement and support by local authorities is often required. Mike Odiegwu, *Board´s intervention fund increases local content in oil sector*, THE NATION (Mar. 22, 2018) http://thenationonlineng.net/boardss-intervention-fund-increases-local-content-oil-sector/.

44. Douwe Tideman, Arthur Ramos, Georges Chehade and Rose Landau, *Local content in oil and gas: Recasting the conversation*, at 4 PWC STRATEGY& (2014). https://www.strategyand.pwc.com/reports/local-content-oil-gas.

environment in other ways. Resource development can disrupt existing socioeconomic patterns in the host nation,[45] and draining its natural resources without an immediate corresponding return of value may seem inequitable,[46] provoking civil unrest. A massive influx of foreign capital and workers can likewise cause societal frictions, and these may adversely impact the relevant petroleum activities. When LCPs help to alleviate such problems, "the benefits of maintaining social stability in a resource-bearing locality and … to retain a social license to operate may be more important" than the costs of compliance.[47]

E. How will the chosen policies affect other aspects of the host nation economy?

LCPs may contravene trade agreements or other obligations whose value to the host nation would have to be carefully evaluated.[48] A policy that boosts the petroleum industry and related enterprises but leads to curtailment of trade in other sectors of the host nation's economy may not, on balance, be beneficial. Thus, the petroleum sector cannot be viewed in isolation: LCPs must instead be aligned with the other economic development policies of that country.[49]

Before adopting a set of LCPs, a host government would do well to analyze the likely costs and benefits of all the relevant policies that may already be available in its country.[50] Unfortunately, there is no single

45. Tordo, *supra* note 7, at 26.

46. Olawuyi, *supra* note 10, at 6.

47. *Id*. at 8.

48. For example, local content rules may violate the Agreement on Trade-related Investment Measures (TRIMs) introduced in the Uruguay Round of the General Agreement on Tariffs and Trade. However, it is outside the scope of this paper to analyze such considerations. For further information, *see e.g.*, Lisa Johnson, *Space for Local Content Policies and Strategies,* at16 COLUMBIA CENTER ON SUSTAINABLE INVESTMENT (Jul. 2016). http://ccsi.columbia.edu/files/2016/10/giz2016-en-local-content-policies-study.pdf.

49. Tordo et al., *supra* note 7, at xiii.

50. An example of an industrial development policy other than local content is "import-substitution-industrialization" where certain key sectors, such as manufacturing, are protected from imports. The selective protection of these sectors allows them to develop, adapt and become (more) competitive without being exposed to international market pressure. As soon as the relevant sector has become sufficiently competitive, however, the protectionist measure(s) ought to be removed as the artificially sheltered environment they provide may otherwise work against further sector advancement. A. de Lima-Campos, *Local Content Requirements in the Oil and Gas Sector*, (2013) https://www.scribd.com/presentation/237251225/Local-Content-Requirements-in-the-Oil-and-Gas-Sector-A-de-Lima-Campos-Keynote-Day-1 (presentation).

blueprint that can be followed to enhance industrial development: as with fiscal regimes in the extracting industries, the choice of LCPs and the tools to implement them very much depend on the specifics of each host nation. This ties back to the previous points raised in this section: the fundamental initial elements of an LCP are for the host nation (1) to know its own basic strengths and weaknesses; (2) to understand the specific needs of the petroleum activities about to be undertaken and the country's ability to meet those needs; and (3) to have formulated the country's overall goals and objectives for the policies in a clear and transparent manner. There can, therefore, never be a "one size fits all" policy. Each policy drawn up in a country and the experience gained in relation to it should be carefully analyzed as these policies should have been designed to address the particularities, context, and requirements of each nation. If the chosen policies do not achieve their intended goals over time, they should be modified or abandoned.

III. Key Variables in Designing LCPs

The political, economic, and technical circumstances that influence the development of a country's petroleum sector will naturally vary between countries. Nonetheless, there are certain similarities of issues that have a bearing on LCPs and their impact on the sector.

A. Control of natural resources

Countries have the right to exercise permanent sovereignty over the resources within their borders.[51] A threshold question is often how to determine who controls the territory in which a given petroleum resource is found. Investors can rightfully be expected to be leery of risking their capital on costly and time-consuming exploration and development until they know who owns the petroleum in question. This question comprises several layers, one of which is the delimitation of (maritime) boundaries. Licensing and development of North Sea oil and gas resources, for example, began only after Denmark, Norway, and the UK resolved their competing territorial claims.[52] Once the question of territorial sovereignty is

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51. *See generally* note 20 and the discussion therein.

52. Norskpetroleum, *Norway's Petroleum History*, NORWEGIAN PETROLEUM (2017) http://www.norskpetroleum.no/en/framework/norways-petroleum-history/. By contrast, exploration off the coast of Cyprus has been slowed by disputes between the Turkish and Cypriot governments. *See e.g.*, Michele Kambas, *Standoff in high seas as Cyprus says Turkey blocks gas drill ship*, REUTERS, (February 11, 2018) https://www.reuters.com/

resolved, the next layer concerns ownership of and control over subsurface resources. This could be addressed in primary or secondary legislation. The Norwegian parliament, for example, enacted legislation vesting the state with rights to exploration and exploitation of offshore petroleum resources; the UK followed a similar path as the Crown owns and (through the government) manages its oil and gas resources via hydrocarbon legislation.[53] Other countries, like Brazil, explicitly claim state ownership of oil and gas resources via their national constitution, sometimes as well as through petroleum legislation.[54]

The mechanisms by which countries exercise their control over hydrocarbon resources vary. Brazilian national oil company Petrobras, for example, exercised the country's monopoly rights to petroleum for over 40 years before new legislation amended the constitution and created a hydrocarbon law permitting direct contracts between the state and private entities.[55] In some countries, like Angola, government entities share

article/us-cyprus-natgas-turkey-ship/standoff-in-high-seas-as-cyprus-says-turkey-blocks-gas-drill-ship-idUSKBN1FV0X5.

53. Government of Norway, 1963, *Act of 21 June 1963 Relating to Exploration and Exploitation of Submarine Natural Resources* (Submarine Resources Act). http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/NOR_1963_Act.pdf. Government of the United Kingdom, 1964, *The UK Continental Shelf Act*, https://www.legislation.gov.uk/ukpga/1964/29/section/1 (last visited on 17 January 2018).

54. The Brazilian constitution gives the state ownership of "the mineral resources, including those of the subsoil." *See* Government of Brazil, 2010. Constituicao Federal [C.F.] [Constitution of the Federative Republic of Brazil] 3d. Ed., Art. 20. (Braz.) http://english.tse.jus.br/arquivos/federal-constitution (last visited March 30, 2018). The Angolan constitution uses even more comprehensive language, granting the state ownership of all "solid, liquid and gaseous natural resources existing in the soil and subsoil, in territorial waters, in the exclusive economic zone and in the continental shelf." *See* Republic of Angola, 2010. Constitution of the Republic of Angola, Article 16. http://publicofficialsfinancialdisclosure.worldbank.org/sites/fdl/files/assets/law-library-files/Angola_Constitution_2010_en.pdf (last visited May 22, 2018).

55. ANP (undated). "Legislation for Exploration and Production of Oil and Natural Gas." http://www.eisourcebook.org/cms/Brazil,%20Exploration%20and%20Production%20of%20Oil%20&%20Gas%20Legislation.pdf (last visited April 22, 2018). The legislation created two new institutions to regulate the petroleum sector: the National Energy Policy Council (*Conselho Nacional de Politica Energética* (CNPE)) and the National Agency of Petroleum, Natural Gas, and Biofuels (*Agência Nacional do Petróleo, Gás Natural e Biocombustíveis* (ANP)); but the decades of dominance by Petrobras mean that it still wields considerable market share and thus economic power. Wharton School of Business, 2003. "Now 50, Petrobras, the Brazilian National Oil Company, Has Aged Well." http://knowledge.wharton.upenn.edu/article/now-50-petrobras-the-brazilian-national-oil-company-has-aged-well/ (last visited March 30, 2018).

regulatory control with the national oil company.[56] Whatever their method, nations typically insist on keeping control of their petroleum resources and retain the power to impose further conditions before entrusting any rights to oil and gas companies.[57] Whether the host nation's authority is categorized as ownership or as an outgrowth of sovereignty and regardless of what entity is chosen to exercise that authority, the practical result is that any company interested in obtaining rights to explore for and/or produce petroleum must abide by the obligations imposed by the LCPs of the host nation.[58]

B. National focus on petroleum

Although petroleum is a valuable commodity, its discovery does not automatically translate into an economic bonanza, and the host nation must still determine whether to make building a petroleum industry a national priority. The presence of petroleum in the North Sea, for example, was known for about a decade before development began in earnest in the 1970s despite the UK government having started issuing exploration and production licenses as early as 1964.[59] The initial pace of development was slow as nations adjoining the North Sea had little to no local experience in offshore petroleum operations (and, at first, little incentive to gain it either due to secure crude supply sources elsewhere in the world).[60]

Early work in the North Sea was dominated by foreign companies.[61] By 1970, however, as the potential of the region became clearer, nations adjoining the new oil and gas provinces began crafting and updating their national policies for petroleum development. The Norwegian government,

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56. Lucy Corkin, *After the Boom: Angola's Recurring Oil Challenges in a New Context*, at 12 OXFORD INSTITUTE FOR ENERGY STUDIES (May 2017) https://www.oxfordenergy.org/wpcms/wp-content/uploads/2017/05/After-the-Boom-Angolas-Recurring-Oil-Challenges-in-a-New-Contect-WPM-72.pdf.

57. See *e.g*, Government of Norway, 1963. "Act of 21 June 1963 Relating to Exploration and Exploitation of Submarine Natural Resources." http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/NOR_1963_Act.pdf, para 2: "The King may give Norwegian or foreign persons, including institutions, companies and other associations, the right to explore or exploit natural resources. Specific conditions for such permission may be stipulated."

58. However, the host nation must be aware that these obligations might reduce the attractiveness of doing business in that country.

59. Earle Marshall, *North Sea Gas Discoveries*, 22, No. 6 FIN. ANALYSTS J. 139 (1966).

60. Tideman et al. *supra*, note 39, at 10. *See also* N.J. Smith, *Industrial Policy: Lessons from the North Sea*, 10 No. 2 Civitas Rev. 1, 3 (Dec. 2013).

61. Smith, *supra* note 60, at 3.

for example, undertook a comprehensive reorganization of its petroleum industry bureaucracy in 1970, shortly after the discovery of the massive Ekofisk field.[62] By 1972, Norway had two new agencies to deal with administrative aspects of oilfield development: a Division for Petroleum and Mining (initially created within the Ministry of Industry, but eventually spun off as a separate ministry) and the Norwegian Petroleum Directorate (NPD).[63] Norway also created a national oil company, Den Norske Stats Oljeselskap A/S (Statoil, now Equinor) to run the country's petroleum business operations and ensure Norway received the maximum benefit from its petroleum resources.[64] Similarly, concerned that its initial *ad hoc* approach to granting licenses was not capturing enough benefit from its nascent offshore petroleum activities, the UK established the Offshore Supplies Office (OSO) to monitor local oil and gas development.[65] The OSO was authorized to intervene in procurement processes of IOCs by, for example, obtaining information on upcoming tenders, establishing criteria for bid evaluations, and suggesting additional national/local bidders.[66] It became, in effect, a single point of contact for (mainly) foreign companies seeking to participate in UK offshore oil and gas procurement processes.

The OSO and NPD brought focus to their respective nations' petroleum efforts, helping them develop and enforce ambitious LCPs and both nations eventually developed successful petroleum industries making significant contributions to their domestic economies. In the UK, "British content" in the North Sea oil sector increased from about 40% in 1974 to over 80% in 1986,[67] and the petroleum industry became the country's largest industrial sector, at its peak supporting employment of 450,000 people and generating several billions of pounds in exports and other economic activity each

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62. Norskpetroleum, *supra* note 52; s*ee also* NORWEGIAN PETROLEUM DIRECTORATE, *Norwegian Petroleum Directorate History*, (May 15, 2009) http://www.npd.no/en/About-us/Organisation/History/.

63. Norwegian Petroleum Directorate, *supra* note 62.

64. *Id*. *See also* Helge Ryggvik, *The Norwegian Oil Experience: A toolbox for managing resources?,* UNIVERSITY OF OSLO CENTRE FOR TECHNOLOGY, INNOVATION, AND CULTURE at 41 (2010) www.sv.uio.no/tik/forskning/publikasjoner/tik-rapportserie/Ryggvik.pdf.

65. *Id*. at 12; Smith, *supra* note 60, at 5.

66. *Id*. at 5–6.

67. Scotland Sunday Herald, *Vital role of the offshore supplies*, THE HERALD (Jun. 21, 1989), http://www.heraldscotland.com/news/11918908.Vital_role_of_the_offshore_supplies/.

year.[68] Norway became the world's third-largest exporter of natural gas and eighth-largest exporter of crude oil; petroleum now accounts for roughly 47% of the total value of Norway's exports,[69] and Norwegian companies are some of the world's leading providers of high-tech oil services to other countries.[70]

Policymakers must consider timing and general market conditions when they wish to create a domestic petroleum sector, including the establishment of a national oil company, national petroleum agency and petroleum-related goods and services. As noted above, some commentators have suggested that local content regimes like those established by riparian petroleum-producing states to the North Sea (such as Norway, the UK, Denmark and The Netherlands) were able to thrive in part due to the then-existing high oil prices and the fact that political uncertainty in fuel supply made abiding by such rules more palatable or, at least, not intolerable.[71] Conversely, low oil prices and secure supplies may diminish the leverage otherwise enjoyed by petroleum-wealthy nations to impose and enforce robust LCPs. Host nations should, therefore, balance their expectations against a realistic view of market conditions and design their policies accordingly.

Therefore, timing and general market conditions likely play pivotal roles in the development of any new petroleum sector. Nonetheless, experience suggests that host nations can enhance their prospects for success by creating national agencies with a clear focus on the new industry, without conflict of interest if such role is performed by a NOC, and on reaping its benefits for the host country.

C. Policymaking process

Methods for creating LCPs run the spectrum from the informal and highly discretionary approach initially used by the UK prior to creation of the OSO, to more formal and structured models like that later favored by Norway, where over a year of parliamentary work and discussion preceded

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68. UK Department for International Trade, *Guidance for UK companies involved in the oil and gas sector on exporting overseas*, GOVERNMENT OF THE UNITED KINGDOM (2016) https://www.gov.uk/government/collections/oil-and-gas-sector-export-help.

69. Norwegian Petroleum, *Exports of oil and gas*, NORWEGIAN PETROLEUM (2017) http://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/.

70. Tideman, et al., *supra* note 44, at 10.

71. *See e.g.*, Per Heum, *Local Content Development – experiences from oil and gas activities in Norway*, at 13 NORWEGIAN INSTITUTE FOR RESEARCH IN ECONOMICS AND BUSINESS ADMINISTRATION (Feb. 2008) https://brage.bibsys.no/xmlui/handle/11250/166156.

the creation of the NPD. Historically, certain countries used to place responsibility for crafting LCPs in the hands of business entities rather than the government: in Nigeria, for example, the national oil company NNPC (Nigerian National Petroleum Company) was initially given authority to issue directives for "Nigerian Content,"[72] while in Brazil, Mexico and Iran, Petrobras, Pemex and NIOC (National Iranian Oil Company), respectively, took the lead by virtue of their exercise of their respective state's constitutional monopoly over oil and gas resources. However, as later regulatory reforms abolished some of these monopolies, the situation in most of these countries has since changed.

In scenarios where LCPs are designed and implemented by government officials, there is at least a theoretical measure of public accountability: if the policies are inept or plagued by overt corruption, they eventually may harm the officials and their political masters. This can, however, be complicated by high levels of discretion, which are not always conducive to transparency, and by overly-ambiguous rules that can make all but the most egregious cases of malfeasance difficult to expose and correct. Moreover, there is no guarantee that officeholders and civil servants will be sufficiently well prepared, far-sighted or even available in sufficient numbers to craft the best policies, no matter how transparent and inclusive the rule-making process. Nonetheless, provided the officials are truly accountable to the public, badly-designed and badly-implemented policies are more likely to be corrected – either by the officials themselves, if they get a chance, or their successors.

By contrast, in scenarios where LCPs are crafted by corporate officials, accountability to the public is arguably either nonexistent or highly attenuated, lessening pressures to fine-tune the policies or to make more drastic changes, if necessary. In addition, LCPs created by company directives may lack enforceability. A good example for this is Nigeria, where – absent the force of law – the NNPC directives made little progress toward their ambitious goals.[73] Finally, the risks of conflicts of interest are

72. Ugwushi Bellema Ihua, *Local Content Policy and SMEs Sector Promotion: The Nigerian Oil Industry Experience*, 5 No. 5 INT'L J. OF BUS. AND MGMT. 3, 5 (May 2010) (available for download at http://www.ccsenet.org/journal/index.php/ijbm/article/view/5435) (Defined as the "quantum composite value added or created in the Nigerian economy through the utilization of Nigerian human and material resources for the provision of goods and services to the petroleum industry."). *See also* Ovadia, note 73.

73. The initial NNPC targets called for 70% Nigerian content levels by 2010; but two years before the deadline, the company acknowledged that the levels were only about half that, and media sources reported far more dismal levels in the 5-20% range. *Id*. at 72; s*ee*

heightened when market participants are given authority to regulate the market as well. In summary, corporate-driven policies may be well-crafted by persons with expertise in the field, but they are not without drawbacks of their own.

A last question in this area relates to the impact of direct input by civil society: are countries that (1) are clear on their policy goals, (2) present these goals coherently, and (3) consult over them with the public, ultimately more successful in achieving their goals than other countries? Given the disparity in circumstances between countries and market conditions that affect adoption and implementation of LCPs, there may be no clear answer to this. However, policies written for broad public consultation might well be subject to a more careful and analytical drafting and vetting process than those policies where no public input is sought. They may also benefit from factual issues or concerns being raised by public comment that might have otherwise been overlooked, as well as additional scrutiny once public comments are received.

D. Policy content

Just as there are many ways to create policies, there are many different options for policy content. All petroleum industry LCPs seek to promote local involvement in oil and gas activities for the benefit of one or more sectors of the local economy; but there are at least as many different ways to pursue that goal as there are countries with petroleum reserves. Initial policies were free-form affairs, with little structure to guide the IOCs' in their compliance: the early LCP regime in the UK, for example, was a discretionary licensing system to favor companies willing to commit to rapid growth and use of UK-based suppliers, without formal targets or methods for measuring progress.[74] In this system, prospective licensees are incentivized to submit the best possible package of benefits to surpass the competition and, at least in theory, this may lead to a broader offering of benefits to the host nation. However, such schemes may result in a mismatch where the benefits on offer, while attractive, do not meet any particular public need. Corruption may also become an issue: it may be cheaper for an international company to offer a benefit to the relevant

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also Jesse Ovadia, *Measurement and Implementation of Local Content in Nigeria – A Framework for Working with Stakeholders to Increase the Effectiveness of Local Content Monitoring and Development*, at 5 FACILITY FOR OIL SECTOR TRANSPARENCY IN NIGERIA (Jan. 2013) http://cpparesearch.org/wp-content/uploads/2014/12/FOSTER-Measurement-and-Implementation-of-Local-Content.pdf.

74. Klueh, *supra* note 17, at 7.

government official involved in the evaluation of bids than to provide value to the wider public.

A structured system of LCPs to encourage use of locally-sourced goods and services without explicit numerical targets can be implemented as a midway alternative between pure discretion and a rigid system of quotas. This includes, for example, policies that impose preferences for local vendors and/or employees, provided they meet quality criteria that place them within a certain range of the lowest-priced foreign sources. Norway, for example, decreed in 1972 that oil and gas licensees would have to include Norwegian contractors in invitations for tenders to the extent they produced goods or services of the kind required. The decree further required use of Norwegian goods and services to the extent competitive with foreign goods and services in terms of quality, service, schedule of delivery, and price.[75] Such policies can be weighted and implemented in a variety of fashions. Angola, for example, requires preferential consideration for Angolan companies in contracts and subcontracts, "provided that the amount of the respective proposal is not more than 10% higher than that proposed by other companies."[76] Kazakhstan imposes a statutory discount requiring a company tendering a contract for bids to "reduce the price of the bids submitted by those tender participants that are Kazakhstan producers by twenty percent."[77] In most of these schemes, companies are expected to buy and hire locally, with the proviso that the local content must meet certain minimum standards. It is not difficult, however, to envisage scenarios in which these standards are expressed in terms that effectively mandate foreign goods and expatriates – or exclude them – and thus undermine the flexibility that makes these forms of LCPs attractive. It also creates an environment where it becomes very difficult for local companies to compete on an "equal footing". Moreover, policing these rules may be difficult and lack transparency, which can encourage favoritism and lead to corruption.

75. *See generally*, Perrine Toledano, Sophie Thomashausen and Suzhe Jia eds., *Local Content: Norway – Petroleum*, COLUMBIA CENTER ON SUSTAINABLE INVESTMENT , http://ccsi.columbia.edu/files/2014/03/Local-Content-Norway-Petroleum-CCSI-May-2016.pdf.

76. Angolan Ministry of Petroleum (Sonangol translation), *General Regulatory Framework for Hiring of Services and Goods from National Companies by Companies in the Oil Industry*, (2003) at Article 6, http://www.sonangol.co.ao/Style%20Library/pt-pt/Pdf/licitacoes/laws_order127_en.pdf (last visited January 21, 2019).

77. Government of Kazakhstan, *Law on Subsoil and Subsoil Use*, at Article 78 (2010) https://www.wto.org/english/thewto_e/acc_e/kaz_e/WTACCKAZ69_LEG_3.pdf (last visited January 21, 2019).

Some nations opt for policies that are setting numerical targets which can either be expressed in affirmative terms as quotas that must be reached, or in negative terms as ceilings that cannot be breached. Indonesia's regulations for the petroleum sector, for example, include detailed schedules specifying local content targets as a percentage of total expenditures in each category of activity, with quotas increasing with the passage of time. The schedules include targets for specific activities and for broad categories of work: in off-shore drilling, the target is 45% local content (abbreviated from the Indonesian as "TKDN") for each year in the period 2017-2020, rising to 55% TKDN annually in the period 2021-2025; while for on-shore drilling, the goals are 70% per annum during 2017-2020 and 90% thereafter.[78] Some nations utilize a mix of positive and negative targets: Angola, for example, requires entities covered by the country's LCPs (which includes essentially all IOCs) to fill positions in Angola with "Angolan citizens duly qualified." Hiring expatriates requires prior authorization of the Ministry of Petroleum for which the company seeking to make the hire must demonstrate that "there are not sufficient and available Angolan citizens with the skills and experience required for the exercise of office or position in question."[79] Foreign workers may comprise no more than 30% of a foreign company's total workforce in Angola.[80]

Numerical targets may be simple to enact and, at least in theory, easy to understand and enforce. However, the greater the level of specificity, the more difficult it may be to reach the quotas: a specific target may turn out to be out of reach, leaving a company that is otherwise complying in breach of the rules and subject to sanction. For the regulators, auditing complex rules may prove expensive or infeasible. Even when the rules are easy to enforce and to follow, there is no guarantee they will produce the desired result without careful drafting. A simple preference for local goods without adequate regard to quality or suitability, for example, may inadvertently cause more harm than good by making petroleum activities inefficient,

78. Ministry of Energy and Natural Resources, *Regulation No. 15/2013*, *Utilization of Domestic Products in Upstream Oil and Natural Gas Business Activities*, Attachment 1 (2013) http://extwprlegs1.fao.org/docs/pdf/ins128474.pdf (last visited January 21, 2019).

79. Angolan Ministry of Interior, *Application of recruitment, integration, training and Angolan personal development and the hiring of foreign personnel for the execution of oil operations in Angola*, at Articles 5 and 8 (2010) http://www.eisourcebook.org/cms/January%202016/Angola%20Law%20Decree%20(Local%20Content).pdf (last visited January 21, 2019).

80. Government of Angola, *2017. Presidential Decree 43/17*, at Articles 5 and 11 https://www.extractiveshub.org/servefile/getFile/id/4195 (last visited January 21, 2019).

reducing profitability, and driving away investors. Conversely, sheltering quotas for local goods and services may slow down development of efficient processes and thus never allow the domestic companies to compete on an equal footing with international firms. Therefore, certain flexibility is required if a host nation desires to use quotas and a proper assessment should be made before establishing those quotas in the first place.

In addition to overt rules, countries sometimes implement policies that do not explicitly take up the cause of supporting local content, but indirectly have the same effect. Angola, for example, requires workers to be paid in Angolan currency: this puts money into circulation for the local economy.[81] They also tend to favor local hires, who need not worry about currency exchange rates and can, therefore, take full advantage of their pay. Norway prescribed petroleum contracts and other essential documents to be written in Norwegian, and also required fluency in that language for employment on offshore drilling platforms.[82] Although such rules are theoretically neutral – anyone can learn to speak a new language – they nonetheless tend to advantage local hires and professional services companies like law firms, contract management companies, and accountants. The language requirement encouraged foreign companies to set up operational entities in Norway in which Norwegians played key roles, thereby promoting transfer of capital investment as well as knowledge and expertise.[83] Finally, LCPs can be structured to promote overall capacity building and civic improvements, as is the case in Indonesia where local content scoring can be increased by up to 15% TKDN based on contributions to community development or providing after-sales service facilities in country.[84]

E. Enforcement

Even the best-designed policies are of little value without an effective enforcement mechanism to support them. Whatever their long-term value to the host nation, LCPs may turn out to be more or less economically-

81. *Id*. at x.

82. Ryggvik, *supra* note 64.

83. Ryggvik, *supra* note 64, at 59. It is worth noting that a similar local-language requirement in the UK would unlikely have had the same impact, because so much of the international oil industry was already (and continues to be) tied to other English-speaking countries, particularly the US. This is an example of how a useful LCP in one country might be ineffective in another.

84. Tordo, *supra* note 7, at 58.

efficient from the perspective of an IOC and its immediate financial interests. Incentives to cheat or to game the system abound.

LCP enforcement may be policed by governmental agencies that happen to have jurisdiction over petroleum resources (such as a national energy ministry) or by agencies specifically tasked with enforcement of local content rules. Alternatively, contractual provisions embodying local content rules may be subject to enforcement by courts of general jurisdiction, provided those courts have (or can obtain) the expertise necessary to interpret the relevant provisions.

During the early days of North Sea petroleum development, host nations relied on informal enforcement systems. In the UK, for example, no legal sanctions were imposed on companies with low levels of "British content" in their activities or supply chain but it was generally understood that such companies would face difficulty in future bidding rounds.[85] In Norway, R&D partnerships sought by the government for its nascent petroleum industry were "made a crucial and determining factor in the licensing process by the Ministry of Petroleum and Energy."[86] As noted earlier, however, both the UK and Norway concluded that monitoring petroleum sector activities to ensure compliance was essential to the success of their LCPs. Other nations have drawn similar conclusions: in Nigeria, for example, "promotion of Nigerian content development" is "a major criterion" for award of licenses, permits and other interests in the Nigerian petroleum sector.[87] A new agency, the Nigerian Content Development and Monitoring Board, collects and audits industry data to verify compliance with the country's LCPs.[88] Brazil outsources monitoring to third parties accredited to undertake that role by Brazil's national petroleum agency under specific rules and guidance.[89]

Monitoring compliance is just part of the enforcement puzzle. Nations use sanctions and rewards to punish noncompliance and encourage good

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85. Klueh, *supra* note 17, at 41.

86. IQPC, *Norway: A Local Content Success Story*, OIL & GAS IQ (Mar. 25, 2010) https://www.oilandgasiq.com/strategy-management-and-information/articles/norway-a-local-content-success-story.

87. Government of Nigeria (2010). "Nigerian Oil and Gas Industry Content Development Act" (NOGIC), Article 3. http://ncdmb.gov.ng/images/GUIDELINES/NCACT.pdf (last visited March 10, 2018).

88. *Id*. at 7-10.

89. *See* "Brazil local content: brief regulatory considerations" in Eduardo G. Pereira, ed., Luiz Izu, Giovani Loss and Fernando Gregio Ludke, *Brazilian Upstream Oil and Gas: A practical Guide to the Law and Regulation* (Globe Law and Business 2nd ed. 2016).

behavior. In Nigeria, for example, operators, contractors, and subcontractors who fail to comply with the local content requirements may be fined up to 5% of the project sum for each project in which the offence is committed or face cancellation of the project.[90] Similarly, companies engaged in petroleum activities in Indonesia that fail to meet the TKDN levels specified in their contracts are subject to sanctions, including fines or revocation of their permit to engage in further activities.[91] In Angola, fines can be imposed on noncompliant firms and companies with unpaid fines are ineligible for new contracts, and contracts that violate the local content rules can be declared null and void.[92] On the other hand, some governments might provide incentives for higher compliance with the country's LCPs.[93] By rewarding compliance rather than simply punishing noncompliance, such a government may be able to create a positive climate of cooperation and in the end reap the benefit of behavior that exceeds expectations.

Such systems of rewards and sanctions seem logical and may be effective; but they pose challenges of their own. For sanctions, for example, at what level should the fines be set? Too low, and the penalties risk becoming an accepted "cost of doing business" rather than effective tools for securing compliance; too high, and foreign companies may choose to do business elsewhere. Worse, some companies may look for alternative methods of avoiding compliance, including attempting to bribe regulatory officials. Rewards for good behavior must be fine-tuned as well to avoid the risk of the host government "giving away" more than necessary to secure the benefits intended by the policies in question.

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90. NOGIC, *supra* note 87, at 68. The term "project sum" and methods for calculating it are, however, not defined.

91. Indonesian Ministry of Energy and Natural Resources, 2013. Regulation No. 15/2013, "Utilization of Domestic Products in Upstream Oil and Natural Gas Business Activities," Attachment 1. extwprlegs1.fao.org/docs/pdf/ins128474.pdf Articles 21-23 (last visited May 18, 2018); *see also* Tordo, *supra* note 7, at 46.

92. Perrine Toledano, Jacky Mandelbaum and Sophie Thomashausen, eds., *Local content: Angola – petroleum*, COLUMBIA CENTER ON SUSTAINABLE INVESTMENT http://ccsi.columbia.edu/files/2014/03/Local-Content-Angola-petroleum-CCSI-July-2014-.pdf (last visited January 21, 2019).

93. *See* HERBERT SMITH FREEHILLS, *The New Iranian Petroleum Contract—Government Approval*, (Aug. 9, 2016) https://www.herbertsmithfreehills.com/hsfpdf/latest-thinking/the-new-iranian-petroleum-contract-—government-approval?pdf=1; *see also* James Dallas et al., *Iran: New Model Iranian Petroleum Contract*, MONDAQ (Apr. 11, 2016) http://www.mondaq.com/x/481064/Oil+Gas+Electricity/New+Model+Iranian+Petroleum+Contract.

The initial approach by the UK and Norway, which considered companies' historical levels of compliance when evaluating their bids for new work, may ensure more cooperation in the long run but such evaluations can be complex and difficult to perform. Countries that lack prior experience in petroleum exploration and development, or that have had relatively inactive petroleum sectors, may also lack personnel with sufficient expertise to detect noncompliance. International companies may choose to perform some activities outside the host nation's jurisdiction to avoid scrutiny by regulators, route some of their business through shell companies or other entities to make it difficult to identify the ultimate beneficiaries, or simply change the ownership of the companies participating in each separate bid or project.

The host country's national oil company may employ (or contract for) personnel with the expertise necessary to detect such subterfuge, if it exists. As noted earlier, however, where the national oil company as a market participant takes on the role of market regulator, special care must be taken lest its immediate business interests conflict with wider national goals. In some countries, the national oil company may become more powerful than the government ministries to which it answers: [94] without clear rules to avoid conflicts of interest, inefficiency and the risk of outright corruption are heightened.[95] Independent regulatory agencies may be better placed to withstand market attractions; but the question then becomes how much independence can be tolerated. In Indonesia, the former oil and gas regulator BPMIGAS was challenged as being far *too* independent of the framework of national law and accountability.[96] Fundamentally, any form of regulation over a complex and lucrative industry like the petroleum industry can be corrupted and must be subject to scrutiny and ongoing review.

F. Institutional coordination and stability

Crucial though it may be to a host nation's economic future, the petroleum sector cannot be viewed in isolation. Countries seeking to

94. Corkin, *supra* note 56, at 12.

95. Frances Coppola, *Cobalt International Energy: Oil, Angola and Corruption,* FORBES (Aug. 17, 2014, 12:43 PM), https://www.forbes.com/sites/francescoppola/2014/08/17/cobalt-international-energy-sec-alleges-corruption-in-angolan-operations/#b70033d2a5b9.

96. Perrine Toledano and Sophie Thomashausen, *Local Content: Indonesia – Petroleum*, COLUM. CTR. ON SUSTAINABLE INV. http://ccsi.columbia.edu/files/2014/03/Local-Content-Indonesia-Petroleum-CCSI-Feb-2015.pdf (last visited Nov. 5, 2018).

develop oil and gas resources must consider their overall economic situation and national priorities, and craft LCPs consistent with the nation's other development policies.[97] Specialty agencies like Norway's GSO or the UK's OSO can be a valuable tool for monitoring progress of the nation's petroleum LCPs, if they are given the resources and authority needed to gather relevant data. Such agencies may also be used to enforce the policies through fines or incentives, and to make or recommend changes to the LCP regime as needed. Coordination is essential to this task. Where the LCPs are focused on building infrastructure like roads and ports, they must be harmonized with the overall efforts of the country's transportation ministry. If the host country needs improved schools, the education ministry must be involved; and so on. Although the national oil company may have enough expertise to run the petroleum sector, this does not guarantee that it will have the institutional knowledge or incentives to work with such a broad spectrum of government activities.[98] An agency independent of the national oil company may be better able to operate as regulator and intermediator in coordinating various aspects of national policy.

LCPs may not produce immediate or obvious improvements in the quality of life of the host nation's wider population: this may be the case, for example, when the government requires investment in local R&D or capacity building such as making management training available to a wider number of participants. In such cases, the host government needs to be able to engage in long-term strategic planning (and to command the support of its people) to nevertheless achieve the full benefit from its policies. This means, in part, for the government to be able to adhere to policies that are making headway, even if they do not produce immediate results. Given the large up-front costs that are often required in exploration and development of petroleum resources, investors are likely to seek stability in the regulatory regime.[99] Unfortunately, those countries that most require long-term investments in human capital are likely to be those where prosperity is

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97. Tordo, *supra* note 7, at xiii.

98. Despite Sonangol's expertise in the petroleum business, for example, it has been subject to criticism for failing to coordinate its regulatory efforts with other government agencies, limiting the effectiveness of Angola's LCPs. *See* Elijah Dickens Mushemeza and John Okiira, *Local Content Frameworks in the African Oil and Gas Sector: Lessons from Angola and Chad*, at 22-24 EVIDENCE AND LESSONS FROM LATIN AMERICA (Apr. 2016), http://ella.practicalaction.org/wp-content/uploads/2016/07/REP-ACODE-Local-Content-Frameworks-in-the-African-Oil-and-Gas.pdf (last visited January 21, 2019).

99. Indeed, regulatory uncertainty is often cited as a disincentive to investment. *See e.g.* IEA, *supra* note 4, at 65.

most lacking, and where public patience is in shortest supply. Public participation, as noted above, may help governments secure the support they need to implement long-term strategies, provided the right tools and mechanisms are in place to allow such participation and to monitor its implementation.

G. Other variables

Finally, a nation's choice of policies should be informed by the presence of any special factors that might affect the development of its petroleum resources. Norway's success in the North Sea, for example, rested in part on world economic circumstances, including the (1) general downturn of business worldwide in the 1970s, which left financiers without traditional markets to invest in; (2) rise of oil prices in the same period, which made Norway a lucrative investment target; and (3) relative lack of expertise in offshore production throughout the oil industry, which opened up space for newcomers to break into this specialized area.[100] These extrinsic factors served to make the timing of Norway's oil and gas "extremely perfect for mobilizing what was needed to develop local industrial competence that could become competitive by international standards."[101]

Intrinsic factors can play a role as well. Regulations requiring use of the local language, as were imposed in Norway, may advantage domestic firms in a country with a single language not commonly spoken abroad. Yet, the same requirement may complicate work in a country with a patchwork of local languages or have little impact at all in a country like the UK, whose native tongue is widely spoken in other oil-producing countries. Economic and political circumstances comprise a blend of external and internal factors: as noted above, the UK had a conveniently-underutilized skilled work force available at the time the need to develop the North Sea petroleum deposits became apparent, and, despite difficulties in the years after World War II, the country continued to be an economic power to be reckoned with.[102] By contrast, domestic strife in Angola and Nigeria destroyed or rendered unavailable much of their local work force and

100. Heum, *supra* note 71, at 13.

101. *Id.*

102. At the beginning of the 1970s the UK was the world's third-largest exporter of industrial goods and it remained in the top five throughout the next two decades. UK Government Office for National Statistics, *UK Trade April 2016*, OFFICE FOR NATIONAL STATISTICS (UK) (Jun. 9, 2016) https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/uktrade/apr2016.

wreaked havoc on their industrial infrastructure.[103] The bottom line remains that there is, and can be, no "one size fits all" strategy for development and consequently no single LCP approach that could infallibly maximize the value added to a host nation's economy.

IV. Ongoing Concerns and Challenges for Developing Countries

Before starting the design of LCPs, a government would do well to analyze the likely costs and benefits of all industrial development policies that may otherwise be available to it.[104] Even if a decision has then been taken in favor of imposing local content requirement(s), careful consideration should continue to be given to the individual features of the adopted policy/ies. Once granted, special privileges "tend to become engrained and politically difficult to remove even in cases where their sustainability is in doubt."[105] Strategies so entrenched tend to survive long beyond their usefulness and, in the end, often hurt the very people they were meant to help.[106]

Other key concerns that need to be addressed when designing LCPs include the type of measures they will be based on. This may include an assertive quota-based approach such as Indonesia's or Brazil's percentage targets and timetables, or encouraging an incentives-based approach like Indonesia's inclusion of local community development efforts in evaluating competing bids. Finally, there is a need for policies to be set in a transparent and all-inclusive manner at realistic, achievable levels with the goal of creating true value addition and competitiveness in the host nation. These concerns are further explored below.

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103. According to some commentators, Nigerian crude oil production dropped by nearly two-thirds between during the war. *See e.g.* Mary Ikande, *History of crude oil in Nigeria*, LEGIT (2017) https://www.naija.ng/1119014-history-crude-oil-nigeria.html#1119014.

104. An example of an industrial development policy other than local content is "import-substitution-industrialization" where certain key sectors, such as manufacturing, are protected from imports. The selective protection of these sectors allows them to develop, adapt and become (more) competitive without being exposed to international market pressure. As soon as the relevant sector has 'caught up' and become sufficiently competitive, however, the protectionist measure(s) ought to be removed as the artificially sheltered environment they provide may otherwise work against further sector advancement. See A. de Lima-Campos, 2013. "Local Content Requirements in the Oil and Gas Sector." Lima-Campos *supra*, note #..

105. Tordo, *supra* note 7, at 58.

106. *Id.*

A. The importance of value addition and competitiveness

Some authors have suggested that the general approach to local content in developing countries appears to be based on an assumption that domestic companies already have the necessary capabilities to supply the required goods and services, but somehow "suffer from a demand bias against sourcing locally"[107] that seems to be inherent in foreign investors. LCPs in these countries, therefore, "tend to focus more on using legislative mandates to transfer economic activity towards"[108] companies that tick the 'being local' box, whether by name, place of incorporation or the identity of their shareholders.

While these governments may believe that a mere enforcement of local ownership quotas is either identical with, or will infallibly lead to, capacity building (which is often where the real need in developing countries lies), true capacity building would ideally involve the creation and improvement of basic managerial, technical and operational skills and the development of vocational training programs for the benefit of the wider domestic population.

There are many factors that may contribute to a country's skills gap. For example, in order to have a positive impact on local employment in a particular sector of the economy an LCP may first need to focus on improving the standards of that country's general education system and/or adjusting labor mobility, and create the necessary means to accomplish that mobility.[109] In fact, LCPs need to be viewed in light of the broader obstacles that industrialization in many developing countries faces. Apart from raising educational standards, the increase in local content will often depend on significant improvements being made to, for example, public transport and road infrastructure to allow people to travel to educational and/or vocational training and work centers. Improvements are often also required to public security to make women and young girls feel safe enough to undertake journeys, or live, away from home. More generally, improvements may also be needed in the way business is done in the relevant country, and the levels of bureaucracy, transparency in general business practices, corruption, and access to financing that exists.[110]

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107. United Nations Conference on Trade and Development (UNCTAD), *Local Content Requirements and the Green Economy*, at 11 UNCTAD (2014) http://unctad.org/en/PublicationsLibrary/ditcted2013d7_en.pdf.

108. *Id.*

109. *Id.*

110. *Id.*

The choice of LCPs and the measures that those policies attempt to implement to plug any gaps that may exist should then, logically, be designed to address the nature and level of these gaps, rather than to create a one-for-all approach by mandating minimum quotas, for example, for domestic employment obligations and training budgets.[111] Policies that are primarily focused on compliance of foreign investors with quotas, rather than approaching capacity building comprehensively as something that should and will benefit the entire domestic economy, may therefore compromise their own effectiveness.

Some host governments favor the redistribution away from foreign investors of wealth that is created by industrial operations in the relevant host countries, and the passing on of such wealth to those local communities that were either actively involved in the creation of that wealth in the first place or in whose vicinity and with whose resources that wealth was created and who should, therefore, be entitled the most to reap the benefits of such operations. However, it is arguably the gradual reduction in the market power of large foreign investors that should be targeted instead. If not, the indirect control foreign investors exert by providing the income that is being redistributed in this way may, in effect, make the local economy more dependent on them rather than encourage it to stand on its own.[112]

Upon their introduction, protectionist measures such as LCPs, even if they are well designed, are likely to use up resources rather than create immediate value. The expenditure initially needed to get local content measures successfully off the ground would, however, only be economically justifiable for a country or a foreign investor to shoulder, if

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111. Skills shortages across the hydrocarbon value chain are a well-known issue all over the world. That will have two main consequences: foreign investors may struggle to meet their own demands in relation to experienced expat technical, operational and/or managerial staff so may share a host country's interest in building a local workforce but may also face a lack of available teachers and instructors to get such training under way. For examples on effects such shortages have, see Joseph Green, *How does the industry address its single biggest challenge: the skills shortage?*, ENERGY GLOBAL (Apr. 14, 2015) https://www.energyglobal.com/upstream/exploration/14042015/industry-challenge-skills-shortage-leonard-607/; *see also* W. Chris Daum, Scott Duncan and Sabine Hoover, *Skills shortages in a booming market: The big oil and gas challenge*, HYDROCARBON PROCESSING (2014) http://www.hydrocarbonprocessing.com/blog/2014/06/skills-shortages-in-a-booming-market-the-big-oil-and-gas-challenge.

112. *See e.g.*, Marine and Petroleum Nigeria, *Nigerian Content Policy Suffers Under Low Oil Prices*, MARINE & PETROLEUM NIGERIA http://ww.w.marineandpetroleum.com/content/nigerian-content-policy-suffers-under-low-oil-prices (last visited May 24, 2018).

the ensuing efforts actually led to true capacity building, cost savings and, therefore, value creation for all concerned, at least in the mid- to long-term. Having said that, the high upfront capital requirements and needs of the hydrocarbon sector for costly, complex technology, coupled with the prolonged low oil price and subdued debt markets in which the industry continuous to find itself, have caused the industry to become very cost conscious. Global supply chains in the industry are designed to keep costs down by buying high quality products in bulk orders from reliable suppliers rather than to artificially inflate costs by including in supply tenders local suppliers of unknown quality or reliability. And even if the foreign investors were to take on such increased costs, they would likely do so in the full knowledge and expectation that these costs are recoverable under the local hydrocarbon production sharing regime or as a tax relief. Consequently then, when designing LCPs in the petroleum sector, policymakers need to be conscious of not inadvertently creating measures for which that country's costs of compliance actually exceed their public benefit.[113]

If an increase in operational costs for foreign investors caused by virtue of local content requirements will, in one way or another, be paid for by the host country itself, it may make sense, at least in the context of some countries, to design more intrusive measures aimed at subsidizing fledgling home-grown companies until they are a more serious match for their international competitors, rather than forcing foreign investors to comply with often quite arbitrary quotas and other requirements resulting in an increase in their costs and expenditure (which they most likely will charge back to the host country).[114] Other countries have created geographical and sectoral clusters to hasten the establishment of domestic and/or regional business centers and, at the same time, ensure their own technological advancement.[115]

Having said that, the more complex LCPs become, the more difficult it will usually be, on the one hand, for regulators to administer them effectively but, on the other hand, for foreign investors to actually correctly interpret and execute these policies in the first place. Increased complexity

113. For more discussion on this point, *see* Tordo et al., *supra* note 6.

114. This was part of the route the UK chose.

115. An example is Malaysia's 2010 Economic Transformation Programme which sets out a number of steps and actions the country is undertaking to convert itself into such a regional and sectoral cluster. For further details, *see* Pemandu, 2010. "Economic Transformation Programme." https://policy.asiapacificenergy.org/sites/default/files/ETP.pdf (last visited February 7, 2019).

could also lead to increased administrative costs and may consequently create a cash flow issue and, therefore, disadvantage smaller-sized foreign investors, at least in the near term.[116]

B. The importance of transparency and of being inclusive

Impact and general acceptance of LCPs tend to be much increased, if the process of policy formulation involves as many levels of government, society and industry and the process itself is conducted in an as transparent a manner, as possible.[117] The process of LCP formulation should, therefore, be based on considerations that include whether host government ministries in charge of sectors other than the one in question (particularly trade, commerce, finance and, if appropriate, agriculture) are actively encouraged to contribute in the design of these policies in order to ensure that they will have the widest possible impact on the host nation's economy. Another consideration is whether foreign investors will be allowed to participate in the design of the LCPs and, if so, be able to input in a meaningful way on the content of the proposed policy and/or any amendments to it.[118] As mentioned before, it will of course be equally important to solicit input from those who are supposed to benefit the most from the relevant measures, *i.e.* the people of the affected local regions and other civil society groups. This is why LCPs should be well-linked with CSR policies and procedures. However, for any of these comments to be constructive they should be made on an informed basis, so ongoing education by government and local/national media, rather than alarmist reports or misinformation to raise fears or false expectations amongst the public, is paramount.

The process of creating and administering LCPs and quotas must be overseen by public "institution(s) with a clear, limited mandate."[119] The statutory powers, duties and budgetary resources of these institution(s) as

116. This is unlikely to present an ongoing issue though because, as explained on the previous page, in the petroleum sector administrative costs are normally recoverable under the local petroleum sharing regime or as a loss that is offset against corporate gains.

117. This is very much a live topic in South Africa. *See e.g.*, The Africa Report, *South Africa to publish contested mining charter by March*, REUTERS (Feb. 6, 2017) http://www.theafricareport.com/Southern-Africa/south-africa-to-publish-contested-mining-charter-by-march.html.

118. In the UK energy sector, stakeholder input is safeguarded by industry-wide consultations and the relevant regulatory body will be accountable for the way in which it dealt with any stakeholder input that it received as part of the consultation process. This is enshrined in law. *See e.g.*, OFFICE OF GAS AND ELECTRICITY MARKETS (UK), *Consultations Policy*, (Nov. 6, 2018)) https://www.ofgem.gov.uk/consultations/consultations-policy.

119. For further details, look to UNCTAD, *supra* note 107, at 14.

well as the limits within which they are meant to operate and that may separate them from other parts of the wider government, such as national oil companies, should be clearly defined. This last point will be particularly important in those instances where the national oil company also carries out the functions of a national regulatory entity, as is still the case in Angola.[120]

Management of local content is, even in developed countries, a highly resource-intensive task. Therefore, the relevant institution(s) need to be given sufficient manpower to be able to effectively carry out their mandate in this respect and ensure that their staff has the requisite technical and industry expertise to do so. All too often, however, the selection might be made on the basis of a candidate's political or social affiliation, which may not be surprising in countries where political or social affiliates of members of government or of the ruling class more generally are often the only credible candidates in a host country to choose from.[121] Decisions taken by local content institution(s) should therefore be made subject to a judicial review or transparent appeal's process. Unfortunately, most resource wealthy nations are not as well ranked in terms of transparency and anti-bribery practices as, for example, the UK, Norway and Canada.

C. The importance of realism

As mentioned before, perhaps the hardest task policymakers have to tackle is designing and setting local content targets at the right level for the relevant host country circumstances. This task is especially difficult in countries where industrial capacity is unusually low and the socio-economic expectation, and often resulting political pressure, demand quick success stories from their local content measures. The decision of whether to give in to these expectations and pressures is often particularly relevant ahead of national elections when populist promises tend to overrule realistic targets.

Instead of blindly going down the populist route, policymakers should properly assess the relevant "barriers to local development" in their countries and design "appropriate corrective measures, realistic policy targets, and the metrics to monitor the effects of policy implementation."[122] They also need to address the question of how 'local' the local content in

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120. This is still the case, for example, in Angola where Sonangol is also the country's *de facto* regulator in the petroleum sector. Sian Stephens, *Sonangol: Angola's Charm Offensive*, NATURAL RESOURCE GOVERNANCE INSTITUTE (Mar. 2016) https://resourcegovernance.org/sites/default/files/documents/sonangol-angolas-charm-offensive.pdf.

121. For a discussion on this point, look to UNCTAD, *supra* note 107, at 14.

122. For more discussion on this point, look to Tordo, *supra* note 7.

question is meant to be, *i.e.* whether it should benefit the host nation as a whole (i.e. be described as 'national' content) or focus on a particular region. As previously pointed out, this process should, as a minimum, involve those key ministries whose sectors are set to benefit from the local content targets (and who will, therefore, likely strive for these targets to be high), and the foreign investors who will be capable of a realistic evaluation of what is achievable under the particular country's setting and circumstances (and who will likely try to put a damper on the government's high expectations). If the sources of input are too limited, the relevant government targets will go unchallenged and remain purely aspirational and often incapable of being accomplished due to, for example, the timespan that would be required to bring domestic companies to a level at which they were able to successfully compete in the international arena.[123]

It may also become challenging for policymakers to find a way in which to manage widespread underachievement, if local content targets are unattainably high. For a host government not to penalize non-compliance could allow for capacity to build gradually but could also be seen as weak. Choosing to penalize such behavior, however, by, for example, disqualifying non-compliant foreign investors from future bidding rounds or imposing on them financial penalties or even prison sentences[124], can communicate determination but may not actually solve the problem of the subsisting lack of capacity building in the host country. Some countries have, therefore, adopted systems in which local content requirements that are too strenuous for a particular investor or investor class to fulfil can be waived for them or can be waived under particular circumstances.[125] As

123. For the example of Nigeria, *see* Joseph Nna Emeka Nwaokoro, 55 *J. of African L.* 128 (2011). Another example is Ghana. The First Schedule of the 2013 Petroleum (Local Content and Local Participation in Petroleum Activities) Regulations requires that within 10 years up to 90% of "goods and services" that are tied to the petroleum sector be sourced locally, and prescribe a minimum domestic employment level of up to 80% of all "technical core staff" and 10% of all "other" staff within the same timeframe.

124. For example: Petroleum (Local Content and Local Participation in Petroleum Activities) Regulations 2013 of Ghana, note 118, Section 46.

125. See the example of Brazil's ambitious plan to construct 8 FPSOs domestically that had grown out of the local content requirement for oil and gas operators in Brazil to source up to 85% of equipment and services from within the country. This unachievably high target has now resulted in the application for a waiver in respect of the FPSO for the Libra pre-salt field. *See e.g.,* Westwood Global Energy Group, *DW Monday: Not Content with Local Content* https://www.westwoodenergy.com/news/westwood-insight/dw-monday-not-content-with-local-content/ (last visited February 4, 2019); *see also* Michael Place, *Brazil debates local content waiver for Libra pre-salt pilot*, BNamericas (Feb. 9, 2017)

always, care must be taken that such a waiver system does not actually serve as an incentive "for corruption, particularly where the criteria for evaluating waiver applications is not made public or is not applied in an objective or transparent manner."[126]

In addition, and as briefly mentioned above, the more unrealistic a target and the more painful the penalty for not achieving it are, the stronger the incentive may be amongst investors to circumvent that target. Ambiguity in policy formulation, imprecise wording, or targets/quotas that lack clarity, particularly in the question of which criteria have to be fulfilled by a company for it to be regarded as "local" or "indigenous," may benefit the wrong people in this respect.[127] Another issue is that all too often the only "local" people who are in a position to own and manage assets or contribute equity in a "local" company are the well-off and well-educated who tend to be related, or at least close, to the ruling elite of that country thereby again eclipsing the broader population for whose benefit the policies were or should have been designed in the first place.[128]

Similar to devising a country's fiscal regime in the extracting industries, creating LCPs that can be adapted as and when domestic and international markets and considerations change has proven to be a key to avoiding unrealistic goals at any given time and at any stage of domestic sector development. This can be done by including flexible targets (that self-adjust in line with market changes) or by subjecting the relevant policies to periodic reviews. The latter will require political resolve to actually carry through a modification of local content requirements, if a need to do so is indicated by the outcome of such reviews. This may be difficult to attain, however, where the need is one for downward adjustment since this may be

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https://www.bnamericas.com/en/news/brazil-debates-local-content-waiver-for-libra-pre-salt-pilot.

126. UNCTAD, *supra* note 107, at 16.

127. For example, in Ghana to qualify as a Ghanaian/indigenous company, the company must have at least 51% of its equity owned by a Ghanaian with 80% management and senior positions occupied by Ghanaians. The legislation does not specify whether these Ghanaians have to be residents of Ghana. Petroleum Commission, Ghana, 2015. "Local Content." https://www.petrocom.gov.gh/local-content/ (last visited February 7, 2019).

128. *See e.g.*, Megan Zwiebel, *Kevin Abikoff of Hughes Hubbard Discusses the Benefits and Risks of African Local Content Laws*, The FCPA Report (Feb. 10, 2016) (available for download at https://www.hugheshubbard.com/news/kevin-abikoff-of-hughes-hubbard-discusses-the-benefits-and-risks-of-african-local-content-laws).

perceived as the host government backing down under the pressure of foreign investors (and consequently is rather rare).[129]

In addition, governments should be careful before including local content as a bid parameter to award a petroleum contract. Such rules could create a perverse environment where bidders might be "encouraged" to improve their bids with unrealistic local content conditions (e.g. bidding 85% or more of goods and services to be local). In this hypothetical case, the said bidder (i.e. concessionaire) might win the award of the petroleum contract with terms they know are not realistic and later claim that the local market cannot afford such conditions and ask for exemptions from having to fulfil the terms of their own bid which would create a complex scenario between breach of contract and unfair procedures vis-à-vis other bidders. This scenario played out on several occasions in Brazil as past bid rounds allocated 20% of the bid score to local content requirements.[130] This is why Brazil's authorities decided to remove such criteria from later bid rounds.

Policies that take a balanced approach, that are phased in[131] and adjusted in line with changing market conditions and phased out if no longer needed, tend to have at their center of attention a stable industrialization of the domestic economy and ensuing long-term prosperity of the host country rather than pursuit of unattainably high goals for quick, often politically motivated, impact but little actual effect on most people's living standard.

V. Conclusion

There are many examples (including Brazil, Norway, and the UK), in which LCPs in the petroleum sector have demonstrated the capacity to trigger widespread and beneficial economic changes. However, their introduction into other oil and gas provinces of the world has, by and large, underachieved. The outcome of a World Bank analysis[132] of LCPs in

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129. It is therefore worth noting the recent move by Brazil's government to modify minimum local content percentages for oil and gas companies with the aim of boosting investment. David Casallas, *Brazil sets new upstream local content percentages*, BNAMERICAS (Feb. 23, 2017).

130. *See* Perrine Toledano and Sophie Thomashausen, *Local Content Brazil – Petroleum*, COLUMBIA CENTER ON SUSTAINABLE INVESTMENT http://ccsi.columbia.edu/files/2014/03/Local-Content-Brazil-Petroleum-CCSI-May-2017.pdf. (last accessed July 30, 2017).

131. Ghana's 2013 Petroleum (Local Content and Local Participation in Petroleum Activities) Regulations, for example, provide for a staggered approach to local goods and services: 10% at the start, 50% after 5 years, increasing to 60-90% at the 10-year threshold in the First Schedule Part 1. *See supra* note 118.

132. Tordo, *supra* note 6, at xiii.

petroleum sectors across 48 countries world-wide suggests that poor performance of such policies may be due to their key drivers being political imperatives rather than considerations of economic efficiency, which were often treated only as afterthoughts. In addition, the authors of that study[133] seemed unable to find evidence that countries which had adopted LCPs actually made any prior attempt to assess and compare costs and potential benefits of local content with those of alternative policy options. The less developed the economy of a host country, particularly of a new hydrocarbon province, the more assertive the LCP[134] which that country has adopted tends to be, "imposing measures that limit investors' choices with respect to employment, purchasing strategies, localization, and the transfer of knowledge" in a particularly unfavorable way. This may be designed to force foreign investors to help advance that country's economy rather than incentivize them to do so by creating win-win situations (including but not limited to creating incentives to increase local content implementation).

Yet, there is hope for the future of LCPs. If there is one area of commonality that naturally exists between host governments and foreign companies, it often is a strong long-term interest in increasing local content. Whereas for governments this is usually driven by political aspirations, for foreign investors it will present a means to, amongst other goals, cutting costs (including for expat staff), avoiding constant border and visa delays and increasing ties with local markets. Instead of expecting, however, that this long-term objective investors and the host government have in common will instantly bear fruit, simply because wide-ranging local content obligations are being imposed by law or regulation, governments would do better to focus on improving basic infrastructure and address trade/industry policy deficiencies to create the kind of business environment in which companies can thrive and foreign investors will be keen to invest. Otherwise overly-aggressive local content targets will further burden foreign investors with an additional expense of doing business in that country, causing them to either reduce their exposure to that host country or experience a reduction in the profits they can realize there, which would ultimately lead to pressure from shareholders or lenders in their home country or countries to shrink investment in the relevant host country even more, something that usually comes to a head at times, such as now, of low commodity prices.[135][136] This is why LCPs should have realistic short-, mid-,

133. *Id*.
134. *Id*.
135. UNCTAD, *supra* note 107, at 17.

and long-term goals and encourage a cooperative compliance mentality rather than a punitive one.

Therefore, LCPs should be developed consistent within the context of each individual country against its own economic, social and political background. Lessons from other countries could be relevant but they cannot be purely adopted in another jurisdiction without careful consideration and likely adaptations. The expectations of all stakeholders should be clearly understood and balanced, otherwise the introduction of LCPs may lead to further disruptions. Finally, LCPs should provide a reasonable progression with, and realism between the target goals and, the attached terms and conditions which should be suitable for each given jurisdiction and location of the petroleum assets. Failure to address such considerations are likely to cause market disruption, and inefficient and/or unfeasible procedures and might lead to a higher incidence of corruption.

136. *See* Marine and Petroleum Nigeria, *supra* note 112; *see also* notes 40, 124, and 128.