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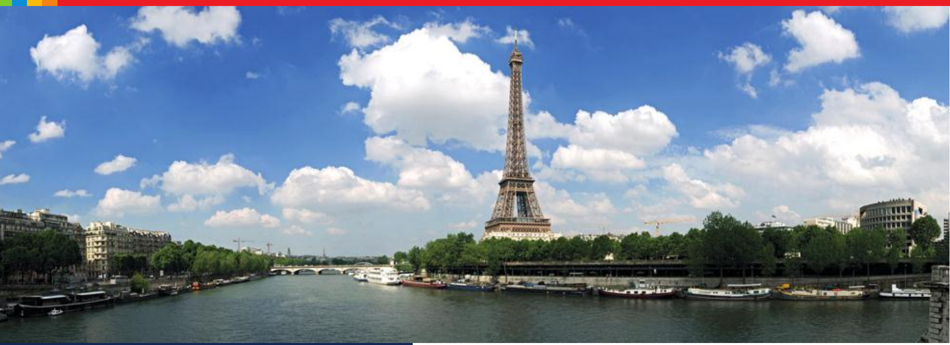

Local Content Strategies in the Oil and Gas Sector:

How to Maximise Benefits to Host Communities

Theme Paper

For the IFRI/CIEP project for TF3 IGU

WGC PARIS 2015 WORLD GAS CONFERENCE

IGU INTERNATIONAL GAS UNION UNION INTERNATIONALE DU GAZ

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Title : Local Content Strategies in the Oil and Gas Sector: *How to Maximise Benefits to Host Communities*
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Published by : Institut Français des Relations Internationales

website: : http://www.ifri.org/en/recherche/thematiques-transversales/energie

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FOREWORD

Revisiting the geopolitical scene and the current areas of strategic importance, the *New Dimensions of Geopolitics and Natural Gas* report illustrates the growing role of various stakeholders and their impact on shaping policies. This emerging trend adds new dimensions to the issues already prevalent in the gas industry and leads to higher scrutiny and rising expectations from stakeholders. This theme paper addresses in particular the social impact issue associated with oil and gas extraction activities and the stance of stakeholders in this context. It presents the increasing focus on the creation of productive links between the oil and gas industry and the rest of the domestic economy, showing how the promotion of "local content" can actually contribute to reversing the "resource curse" when robust and collaborative strategies are put in place.

INTRODUCTION

Discovering oil and gas resources can be both a blessing and a curse. The reason for its being a blessing is rather straightforward: extracting oil and gas (O&G) generates significant flows of revenue to the host country. History has, however, shown us that natural resources, especially O&G, are not necessarily an engine for economic growth, as they tend to create distortions that impede economic development. The "resource curse", widely analysed in the academic literature,[1] is explained by the "Dutch disease" phenomenon and by poor governance. "Dutch disease" refers to the fact that hydrocarbon exports trigger an inflow of foreign currency to the host country, leading to an appreciation of the exchange rate, which in turn has a negative impact on the competitiveness of non-hydrocarbon tradable goods. In the 1990s, the resource curse was also explained by the adverse effects of primary resources on a country's institutional quality. Many authors have addressed the issue of "petromania" behaviour and rent-seeking activities in hydrocarbon-exporting countries, which often gives rise to corruption and deficit in public governance and sometimes leads to situations of extreme institutional collapse and civil conflicts.

This challenging background is a major concern not only for governments, international institutions and civil society, but also for the extracting companies, which seek to secure their investments by building long-lasting partnerships with the host countries. Building on this convergence of interests, there is a growing mobilisation to implement efficient management of the O&G resources in view of limiting adverse effects on the economy and institutions. The following step is to ensure that these resources actually generate benefits for the local economy, in particular through the creation of productive links.

In recent years, increasing "local content" has become a priority strategy, with governments enacting more stringent legal provisions, international institutions issuing recommendations and O&G companies making commitments to review and improve their practices. While it is probably too early to tell whether the global effort to push local content actually helps to reverse the resource curse in all cases, especially that the current context of falling oil prices might have some impact on the local content policies, different approaches can be compared and lessons can certainly be drawn that will allow O&G companies to better contribute to the economic and social development of host countries.

[1] See, for instance, Ross, M. L. (2012), "The Oil Curse: How Petroleum Wealth Shapes the Development of Nations".

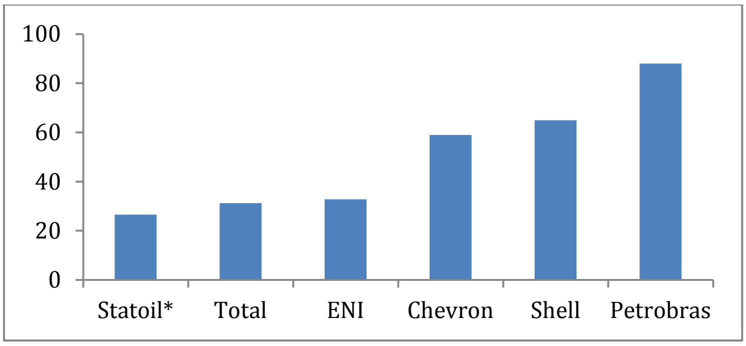
I. Local content, a promising strategy facing strong implementation hurdles

From the outset of production, almost all host countries take action to ensure that the O&G industry provides opportunities for local participation and brings the most added value to their nations. These measures are often referred to as "local content" policies.

a) Expected social and economic benefits to the host countries

The World Bank defines local content as *'the extent to which the output of the extractive industry sector generates further benefits to the economy beyond the direct contribution of its value-added, as through links to other sectors'* (Tordo et al., 2013). The overall idea is that the O&G activities, in addition to providing a resource rent, can have a stimulating effect on economic growth and development if they are sufficiently integrated within the domestic economy. Beyond direct employment of the local population for conducting the project, one objective is to capture locally as much as possible of what the O&G companies spend to carry out their activities. In total, it is estimated that the companies from the O&G and mining sectors spend between 40 and 80% of their revenue on the procurement of goods and services (McKinsey Global Institute, 2013).

Figure 1: Expenditures in goods and services by major O&G companies in 2013 (in billions of USD)



* NOK 170 bn
Sources: Companies corporate social responsibility reports

For these financial flows to be retained locally, home nationals need to be able to secure opportunities in the procurement processes. A "backward linkage" to the domestic economy is created when the O&G industry relies on a local supply sector to perform its activities. Local content also consists of creating "forward linkages" with the economy; this is when the commodity produced is then used as an input for another sector located within the country before the processed good is exported. A typical example is oil being refined in the country where it is produced before it is transported overseas.

While the types of possible linkages with the rest of the economy are clear, **it remains difficult to define local content in practical terms.** Deciding whether a firm qualifies as "local" is indeed a challenge, since different situations can be envisaged. For instance, a firm can be located domestically but be foreign-owned, hiring expatriate employees and using imported industrial machinery for its production. In fact, there is **no unique way of measuring local participation in sectors linked to the O&G industry**, but the key expectation is that jobs and incomes are generated within the domestic economy for the benefit of the host communities.

In a long-term approach, the linkages between the domestic economy and the O&G companies should serve as **a trigger for industrialisation by creating technology spillovers, enhancing local skills and strengthening local**

entrepreneurship. It is an opportunity to reinforce the productive structure of the domestic economy, facilitate diversification and avoid the phenomenon of Dutch disease. In doing so, the resource-rich countries can expect to become less dependent on the direct revenues from O&G production, therefore being less exposed to the volatility of commodity prices and ultimately better prepared for the time when these natural resources will no longer be available or used.

b) The North Sea: the first local content "success story"

Looking at the extent to which the O&G industry benefits host countries, the exploitation of the natural resources in the North Sea appears to be a true success story. The United Kingdom and Norway are prominent counter-examples with regard to the "resource curse" theory, both in the way O&G revenues have been managed to ensure intergenerational equity and in the way these new activities have served to promote broader economic development.

In the case of Norway, oil was discovered in 1969. Only a few years later, the political authorities took decisive action to ensure that petroleum competences would be built up in Norway and that nationals could fully engage in the extraction activities, in cooperation with International Oil Companies (IOCs). Statoil was founded in 1972 as a limited company owned by the Government of Norway. The same year, the agreements between the Norwegian State and the IOCs were modified and Statoil was granted a 50% share in each of the production licenses.

The Royal Decree of 1972 did not provide for detailed local content obligations, but it included legal provisions which ensured that Norwegian suppliers were given a fair opportunity in the tender procedures. For instance, Article 54 of the decree stated that whenever Norwegian suppliers were competitive in terms of price, quality and delivery reliability, they should be given **preference over foreign suppliers**. Oil companies were required to inform the Norwegian Ministry of their tender schedule and of the firms in their bidders' list before the tender. The Ministry could require the inclusion of Norwegian firms in the bidders' list, and it had the final authority to change the company selected for the supplier contract.

Focus was also placed on **innovation**. The RF-Rogaland Research Institute was established in 1973 to develop expertise in O&G technologies, and the University of Stavanger received government funding to develop research programmes in petroleum engineering. Tax deductions were also introduced to incentivise O&G companies to locate their research and development activities in Norway.

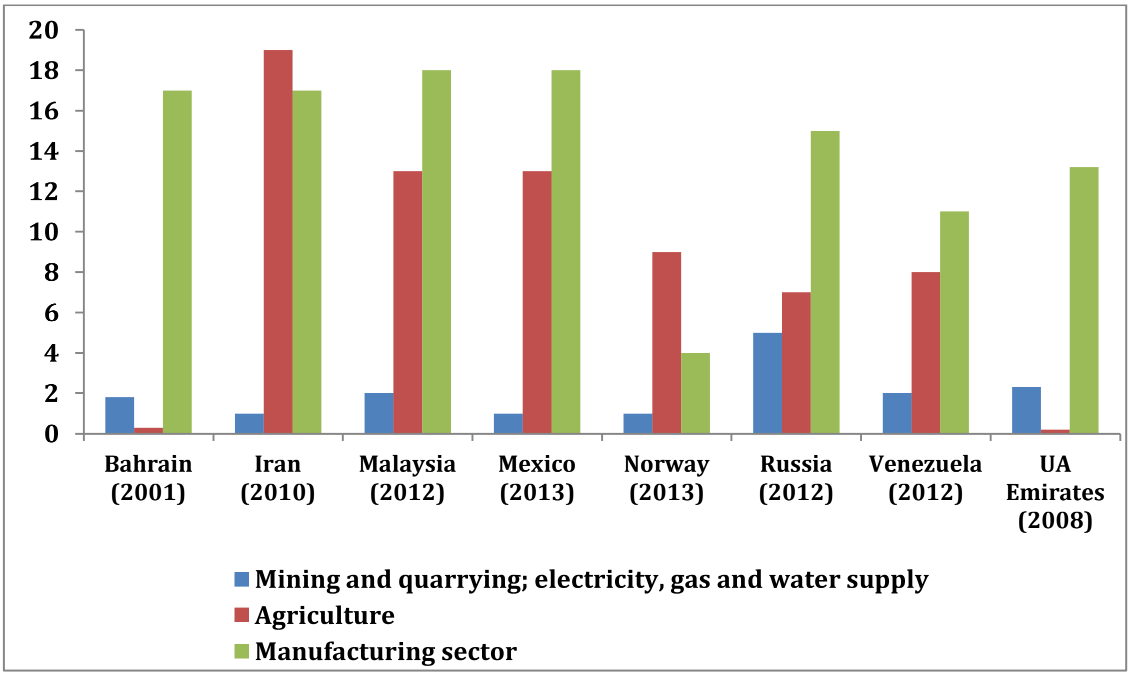
These policies have proven successful. Statoil is now one of the largest energy companies in the world, operating in 36 countries, and has gained globally recognised expertise in the area of offshore petroleum activities. Norway has also developed a strong industrial base for the supply of goods and services for its O&G activities. The share of "local content" ranges from 50 to 60% for investments in the development of new petroleum fields and reaches 80% for maintenance and operations (Heum, 2008). In 1994, Norway had to prepare for its entry into the European Economic Area and therefore phased out the provisions of Article 54 of the 1972 Royal Decree. From that time onward, supply and service providers have been exposed to international competition in the tender procedures, but this has not put a stop to their expansion.

c) Why success is not guaranteed by local content policies

As shown by the Norwegian experience, local content is clearly a valuable strategy for the host country, but there are some obstacles to its development, related notably to the specificities of the O&G industry.

Contrary to other industries, the extractive industry is highly capital intensive and generates little direct employment. In Venezuela, the mining sector contributes to 36% of the GDP, whereas it employs only 2% of the population. The figures are similar for the main O&G producing countries.

Figure 2: **Employees working in the mining and quarrying sector and electricity, gas and water supplies in major O&G producing countries (in % of total employees)**



Source: International Labour Office

The skills required are very specific, making it difficult to find candidates in the host country who have the necessary qualifications. In addition, the need for manpower is instable. It reaches high levels during the construction phase, which lasts only 3 to 5 years, and then decreases drastically at the time of development and production.

Although the expenditures of O&G companies are significant (see Figure 1), **the goods and services** required for the O&G projects **are again very specialised** and involve highly sophisticated technologies that may not be easily offered by local suppliers entering this activity. In order to ensure that the inputs meet the quality standards, are delivered on time and can be purchased at a reasonable price, it seems a less risky approach to rely on a global and long-established supply chain, at least from a short-term perspective. Because of these specificities, the O&G industry can be enclave-oriented and tends to carry out its activities with only expatriates and using only imported inputs.

To counteract this tendency, companies need to be incentivised to adopt a local content approach. This is what the Norwegian government did in the 1970s with the enactment of legal provisions to enhance local participation. However, Norway already had an industrialised economy before the oil adventure started. The expertise in the O&G sector was nonexistent, but Norway had a robust educational system and a labour force involved in relevant sectors such as ship building and hydroelectricity. This was a good starting point for building a local supply chain for O&G activities. In addition, it has been argued that the timing of the discovery of oil in the North Sea was “lucky” because in 1970s the IOCs tended to be excluded from many oil-producing countries, and therefore the Norwegian government was in a favourable position to bargain with these companies. It has also been argued that the local content policies tend to be today more curtailed than during the 1970s with global trade policies (WTO). Furthermore, offshore production was relatively new for the international companies, so there was a window of opportunity for the Norwegian players to play an active role in this technological change (Heum, 2008).

Because of these specific circumstances, it is probably difficult to derive a success formula from the Norwegian experience. Giving a speech at a conference on local content in Ghana in 2013, the Norwegian Ambassador advised the audience to **use Norway as an "inspiration**" but not to try copying it.[2]

II. RENEWED EFFORTS TO BUILD STRONGER TIES WITH LOCAL COMMUNITIES

Hydrocarbon resources were discovered in other parts of the world long before the North Sea discoveries. Promoting local content has always been a preoccupation for host countries, but efforts have often failed to achieve the desired results, especially in less developed countries. For instance, after the discovery of oil resources in Nigeria in 1956, the Petroleum Regulations put an obligation on license holders to employ local manpower and engage in training activities as of 1969. The local content dimension was also reflected in the contractual arrangements with IOCs. After joining OPEC in 1971, Nigeria took a 35% stake in the oil companies operating in the country, and the state oil company, the Nigerian National Petroleum Corporation (NNPC), was established in 1977. Despite these measures, political authorities failed to get Nigerian nationals involved in the oil industry, and for many decades the country has been presented as a prime example of the resource curse.[3] The success of local content policies is of course extremely dependent on the context, with the level of infrastructure development, education, institutional stability and structuring of the civil society all playing crucial roles. However, the diversity of situations is no longer considered to be an obstacle, and the past decade has seen a marked development of local content strategies in almost all O&G producing countries.

a) Strengthened legal frameworks for local content: the case of Nigeria

In 2000, the share of local content in the O&G activities performed in Nigeria was estimated at only 5% (UNDP, 2011). The hydrocarbon resources had not met the expectations in terms of opportunities for indigenous participation, and the need for action was reinforced by the growing tensions in the Niger Delta, where oil and gas are produced.

Building on the political consensus that local content should be made a priority, a Nigerian Content Division was established in 2004 within NNPC, and in the same year a 10-point local content directive was issued by this new body. The declared objective was to raise the level of local content to 45% by 2007 and then to 70% by 2010. The directive was extended in 2005 and 2006, and the Nigerian Content Division engaged in discussion with the IOCs, international and local service companies to better identify where the local content potential could be maximised.

[2] http://www.ghana.norway.info/News_and_events/Making-local-content-work---the-Norwegian-experience/#.VBrsl1dSisg

[3] See, for example: Sala-i-Martin and Subramanian (2003), "Addressing the Natural Resource Curse: An Illustration from Nigeria", IMF Working Paper.

- *Key elements of the Nigerian Content Bill*

As a second step, the local content requirements were enacted into law. The "Nigerian Oil and Gas Industry Content Development Act" was signed by President Goodluck Jonathan on 22nd April 2010, laying out a comprehensive legal framework for the promotion of Nigerian content.[4]

- **A Nigerian Content Monitoring Board** was established to oversee the implementation of the Act and detail its provisions by issuing guidelines. When bidding for a license and before the execution of any project in the oil and gas industry, the operators are now required to submit to the board a "Nigerian Content Plan" in which they demonstrate how they intend to give 'first consideration' to the use of Nigerian goods and services and 'first consideration' to the employment and training of Nigerians.
- **Minimum specifications have been introduced**, for example with a minimum number of Nigerian manpower hours, according to different criteria such as the length of the project or the identification of areas for which spending must be done for 100% within Nigeria. A special deviation authorisation can be delivered by the Ministry, but it cannot last more than three years.
- To ensure that **Nigerian companies are given fair opportunities in the bidding processes**, the Board is to approve the key steps of the tendering and contracting process. Nigerian bidders shall be awarded the contracts if their offers are within a margin of 10% from the lowest bidder. The "Joint Qualification System", a database of Nigerian contractors and competences, became operational in 2011.
- **With regard to employment,** up to a mere 5% of the management positions can be granted to expatriates, and all junior and intermediate positions must be assumed by Nigerian nationals. The operators must also annually submit to the Board a "Technology Transfer Plan" with proposed actions for joint ventures, partnering and licensing agreements with Nigerian companies. In addition, one percent of all contracts awarded in the O&G sector goes to the Nigerian Content Development Fund, which is used to guarantee lending to Nigerian companies and to finance infrastructure developments and training programmes operated by the Board. The Nigerian Content Development Fund had grown to $350m by the end of 2013.

- *Implementation*

The clear challenge is to make sure these new obligations are fulfilled. The Act provides that non-compliance can be sanctioned with a penalty of 5% of the value of the project in which the offence is committed. The project can even be cancelled. The open question is whether the Board will actually use these penalties.

At this stage, it is difficult to assess whether the desired goal will be fully achieved, but Nigerian officials are positive about the results of the reform. In November 2013, Ernest Nwapa, Chairman of the Board, reported that 5 bn USD in additional investments had been attracted to the economy and that 38,000 jobs had been created since 2009.[5] O&G companies also report an increase of local content. **Shell, for instance, indicates that within its local subsidiaries the proportion of employees who are Nigerian reached 95% in 2013 (90% in 2010). Eni reports that the share of procurement from the Nigerian market was 67% in 2011 and reached 94% in 2013.**[6] Another element which suggests that the approach has proven satisfactory is that Nigeria is about to duplicate this approach with a new bill introducing local content requirements in the construction sector.

Nigeria is not an isolated example. **It is estimated that 90% of resource-rich countries now have legal provisions on local content** (McKinsey Global Institute, 2013), and the trend is to move from soft regulation to

[4] The Act defines Nigerian Content as 'the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilization of Nigerian human, material resources and services in the Nigerian oil and gas industry'.
[5] http://www.thisdaylive.com/articles/nwapa-nigerian-content-attracted-5bn-investment-in-4-years/165216/
[6] Shell's Sustainability Reports of 2013 and 2010, Eni's annual reports of 2013 and 2011.

more prescriptive and detailed provisions. For instance, Indonesia[7], Kazakhstan[8] and Brazil[9] are all "mature" oil-producing countries which have significantly strengthened their local content legislation since 2000. Similarly, countries that are new on the O&G scene, such as Ghana, Uganda, Tanzania and Mozambique, have begun to define a legal framework on local content even before the start of production. Consultancy firms are alerting their clients that **'the rules of the games have changed'**[10] **because local content is now key for the O&G companies to be able to succeed, especially in the developing world.**

b) O&G companies are committing to the promotion of local content

Putting aside well-established global supply networks in favour of local manpower and local suppliers generates switching costs. It can also be risky for O&G companies because it can induce possible delays in project implementation and higher costs of production. However, this short-term vision has changed, as **there seems to be broad consensus that O&G companies have much to gain from better integration in the host countries.**

- *The benefits O&G companies can derive from local content*

Favouring local participation can actually be seen as an investment. In addition to the fact that expatriating professionals is very costly, **the workforce of O&G companies worldwide is aging and the industry is now facing a shortage in terms of skills** (ILO, 2012). A survey carried out by Schlumberger Business Consulting HR Benchmark in 2013 shows the growing needs of the O&G industry, in particular for engineering positions. This scarcity of resources is leading to significant delays and even to the abandonment of projects in different regions, notably in Sub-Saharan Africa.

With this growing need for human resources, O&G industries have a clear interest in developing local work forces. Looking at supply chain management, it is also clear that once local capacities are developed to meet industry standards, market players will improve their performance by reducing transportation costs.

In addition to these direct cost-saving opportunities, bringing benefits to the local population is of course an essential prerequisite for sustained operations in host countries. With NOCs from emerging countries now expanding their activities abroad and competition increasing between O&G players, all companies have to make robust proposals in terms of social and economic impact on their host countries if they want to secure their license to operate (Accenture, 2008). More importantly, **promoting the involvement of the local population in the O&G industry is a way to create and maintain good relations and therefore reduce the business risks to foreign companies**. In this regard, it needs to be ensured that new opportunities be provided not only to home nationals but also specifically to the local communities in the area where the O&G activities are performed, since they are the most impacted and legitimately expect compensation for adverse effects.

It is also evident that the media and non-governmental organisations are looking very closely at how international O&G companies operate. These companies must maintain their credibility to their shareholders, governments and public opinion by acting responsibly in the host countries. While this is not new, it is certainly gaining importance due to increased telecommunication and the fact that local communities can now more

[7] "Technical Guidance of Usage of Local Production" Regulation 49, issued by the Indonesian Ministry of Industry in 2009.

[8] Amendments to Kazakhstan's energy legislation in 2007 and local content requirements introduced in the "Law of the Republic of Kazakhstan No. 223-IV" of 2009.

[9] Local content requirements included in the bidding rounds organised by Brazil since 2002.

[10] Accenture, "Developing Local Content Programs: Insight from Accenture to Global Players to Achieve High Performance in Today's Competitive Energy Landscape", 2008.

easily voice their concerns. With companies increasingly concerned about their Corporate Social Responsibility, efforts to introduce local benefits are gaining higher status in company agendas.

- *O&G companies placing a stronger focus on local content*

In recent years, **all major O&G companies have adopted a more structured approach to the creation of value for their host countries.** In addition to reporting on the social investments carried out in areas where they are doing business, companies now put forward comprehensive strategies to increase the socio-economic benefits of their activities. All of them have developed dedicated web pages where they explain how local content is made a priority and illustrate the progress achieved with concrete examples.[11] Beyond the communication aspects, new positions dedicated to local content have been introduced at headquarters. In the case of Exxon Mobil, an internal document called "National Content Guidelines, Strategies and Best Practices" has been created to provide models and tools and identify the responsibilities at each level, such that the local content dimension is now 'embedded into [their] daily processes, procedures and plans'.[12] Another example is provided by Eni, which has included local content development requirements in the new "procurement management system guidelines" issued in 2013 in order to provide advice to the procurement services in each region where Eni is operating.[13]

Describing the change in business practices, Total's late CEO Christophe de Margerie explained that 'we [Total] have completely rethought the way we do things, so that local content is now integrated into our project very early in the design phase'.[14] O&G companies do not insist on their level of compliance with specific local content requirements, but rather present their actions as part of a deliberate and comprehensive approach, showing that the local content dimension is now deeply rooted in their strategies, business models and day-to-day operations.

c) Increased sharing of experiences

With governments implementing more complex requirements and O&G companies showing that they are adapting their practices to take up the challenge, local content has clearly become a topical issue.

- *Institutional cooperation on how to design local content policies*

The recent developments regarding local content policies have been addressed in many reports by international institutions.[15] Although each with a different approach, these reports all tend to draw lessons from various experiences on local content regulations with a view to promoting recommendations on how to make these more efficient. It is clear that each country represents a unique set of conditions and circumstances and that there is no "one-size-fits-all" solution. However, progress is being made in developing countries and not just in countries with a pre-existing robust industry. In a presentation at a World Bank conference on local

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[11] See, for example: BP (http://www.bp.com/en/global/corporate/sustainability/society/Supporting-development-in-societies-where-we-work.html), Eni (http://www.Eni.com/en_IT/sustainability/communities/local-content/local-content.shtml), Exxon Mobil (http://corporate.exxonmobil.com/en/community/local-economic-development), Shell (http://www.shell.com/global/environment-society/society/our-neighbours/hiring-locally.html) and Total (http://www.total.com/en/society-environment/shared-development/synergies-local-economies/promoting-jobs-and-local-content).
[12] http://corporate.exxonmobil.com/~/media/Brochures/2008/news_pub_nc.pdf
[13] http://www.eni.com/en_IT/attachments/sostEnibilita/pdf/Eni_for_2013.pdf
[14] http://www.total.com/sites/default/files/atoms/files/csr-report-2013.pdf
[15] See, for example : UNDP (2011), "Getting it Right"; UNCTAD (2012), "Extractive Industries: Optimizing Value Retention in Host Countries", World Bank (2013); and "Local Content Practices in the Oil and Gas Sector".

content in 2013, a representative from the Norwegian Agency for Development Cooperation[16] noted that progress is being achieved in terms of economic growth in resource-rich countries in Africa. He argued that natural resources can lead to positive results when proper account is taken for economic, environmental and social factors within an intergenerational perspective and suggested that local content could be part of this strategy. These considerations reinforce the case for sharing experiences between countries. In this regard, **the Nigerian Content Development and Monitoring Board reports on increased cooperation with the Republic of Congo and Kenya to share the Nigerian experience and see how it can be used for the design of local content policies in these two countries.**[17]

- *Spreading the knowledge on how business practices should be adapted*

Local content is also an area of experience sharing for the private sector. IPIECA, the O&G industry association for environmental and social issues, issued a guidance document in 2011 on local content strategies and consultant firms, drawing the attention of their clients to the fact that local content is 'taking on new urgency for companies operating in developing countries'.[18] Their recommendations aim to ensure that the more stringent provisions on local content do not become a constraint for the companies but rather an **opportunity to enhance their performance**. Their main message is that resisting the change would be a deadlock for O&G companies. They provide advice on how to embrace the change and best adapt their business practices.

In September 2014, the 10th annual Global Local Content Summit took place in London.[19] The event was sponsored by O&G companies, service providers and consultancy firms, and it aimed to present the most recent case studies on all the major hydrocarbon-producing regions and foster discussions on key implementation issues, such as the design of performance metrics. It demonstrated that local content is **now an important theme for all stakeholders involved in extractive activities who see merit in sharing their experiences, discussing the successes and failures and jointly identifying the conditions that lead to better outcomes.**

III. How to make local content work, with maximum benefit to the population

With the number of initiatives growing and local content becoming a key research area, there is an emerging consensus on **key principles that contribute to making local content strategies work.**

a) Developing a collaborative approach

Defining targets to be achieved in a certain number of years is unlikely to prove efficient if such initiatives are not complemented with extensive analyses of the local content potential and detailed strategies on how to maximise this potential. This said, because governments cannot see the full picture alone, it is important for them to set up a dialogue with O&G companies. In fact, the latter also have a clear interest in becoming involved in the discussion and providing technical advice to public authorities as a way to ensure that the local content requirements will be fit for purpose and will not generate unbearable constraints for their business

[16] http://www.worldbank.org/content/dam/Worldbank/Event/EI%20%20Local%20Content/1%20National%20Local%20Content%20Development%20Svoldal%20Session%201%20Day%201.pptx
[17] http://www.ncdmb.gov.ng/index.php/news-update/116-kenya-congo-move-to-adopt-nigeria-s-oil-sector-local-content-policy
[18] See for example: Strategy& (2014), "Local content in oil and gas – recasting the conversation"
[19] http://www.localcontentsummit.com/

activities. A collaborative approach should therefore be built on this convergence of interests between the state and the private sector.

- *Jointly assessing existing capacities against the needs of the O&G companies*

To make sure the local content policy can work, O&G companies need to provide clarity on their quantitative and qualitative needs in terms of manpower and procurement. The second step is to look at whether the country already has the capabilities necessary to respond to these needs. Studying the match between needs and available resources will help to narrow down the potential for immediate local participation and identify the gaps which will need to be filled over time with specific programmes. **This approach has recently been implemented in Uganda. CNOOC Uganda Limited, Total E&P Uganda and Tullow Uganda Operations Pty Ltd** have carried out an extensive "Industrial Baseline Survey" and presented their results in a handbook which was published in May 2014.[20] This document points out that the oil industry in Uganda could create between 11,000 to 13,000 direct jobs and between 100,000 to 150,000 jobs during the construction phase. In addition to highlighting these opportunities for Ugandans, the survey shows that a shortage of Ugandan manpower is likely to appear for certain positions such as civil craftsmen, drivers and mechanical technicians. Another difficulty raised is that the educational system in Uganda does not yet deliver the certifications to match the industry's standards for technical and engineering positions. With regard to the local supply chain, 25 sectors are identified as having a high potential for local content, but the survey underlines that all these sectors will need to improve the quality of their management standards and of their delivery in order to qualify in the tendering procedures. With this detailed analysis, expectations can be properly proportioned and the areas where action needs to be taken can also be more clearly identified. **The three joint venture partners announced that they would work in cooperation with the Ugandan authorities to develop an implementation strategy for local capacity building in view of getting prepared for the start of development and production in a few years.**

- *Establishing connections between companies and local business partners*

In addition to collaborating on the general design of the local content policy, the creation of a local supply chain requires that information be shared between the O&G companies and all potential suppliers. On the one hand, O&G companies need to be aware of the existence of companies that they could hire to supply goods and services, and, on the other hand, these companies need to know the procurement schedule and the required standards well in advance. Various initiatives are being taken to foster these business connections. **The "Joint Qualification System" established in Nigeria in 2011 provides a comprehensive database of Nigerian contractors and competencies.** In some cases, O&G companies are also taking the lead. For instance, **BP reports that in 2013 its subsidiary in Azerbaijan launched "compliance awareness classes", in which twenty local companies from various sectors participated.** The objective was to inform these potential contractors about the contractual requirements of BP so that they could be optimally prepared for future tendering procedures.[21] Likewise, **Eni tries to enhance supplier development activities in Mozambique by conducting market analyses on Mozambican firms before each tender**.[22] O&G companies have long-established business standards, and the initial offers formulated by local firms may not always meet these standards. A way to lift such obstacles can be to break down the usual contracts into smaller orders, as **Petrobras did to support its programme for FPSO units in Rio Grande, in Southern Brazil.**[23]

[20] CNOOC, Tullow, Total (2014), "Planning for the Future: A Demand and Supply Study on the Oil and Gas Sector in Uganda".
[21] BP in "Azerbaijan Sustainability Report", 2013.
[22] Eni (2014), "Eni for 2013".
[23] Redo Barroso, H. and M. Macedo (2010), "Local Content in Brazilian Oil Industry", *T&B Petroleum* #28.

- *Agreeing on measurement principles*

Finally, the O&G companies and the relevant public authorities have to cooperate on monitoring the effects of the local content strategies. As mentioned earlier, defining what qualifies as local is a challenge, but there needs to be an **agreement on measurement principles in order for the successes and failures to be assessed.** Significant work has been done in this area by the Brazilian regulator for the oil sector (Agencia Nacional do Petroleo, or ANP). In 2007, a "local content certification system" was established in order to collect data on the origin of the goods and services supplied. The O&G companies have to rely on the expertise of ANP-accredited firms that carry out the assessment and deliver the certificates, which can then be presented to ANP as a measurement of the companies' performance in terms of local content. With such an agreed compliance monitoring process, the public authorities can verify whether the O&G companies have met their obligations but can also adapt the design of their policy tools for the future.

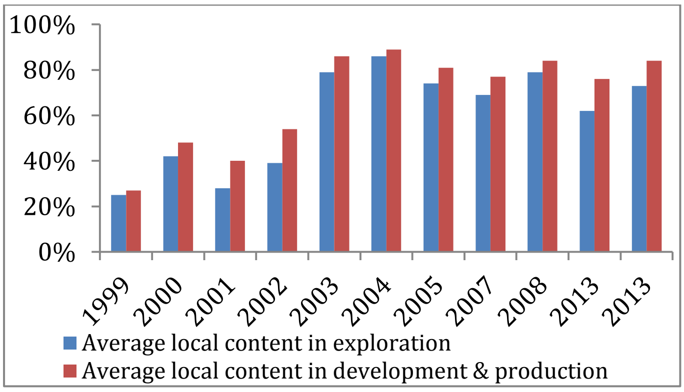
b) Taking a long-term view

Past experiences have also shown that there is no quick-fix solution to promote local participation. Especially in situations where the existing industrial base is narrow, O&G companies will have difficulties finding applicants with the appropriate competences and suppliers that meet the industry's standards. These difficulties will diminish over time as capabilities are reinforced and business connections are more easily made.

- *Setting targets that are within reach*

Setting **unrealistic local content targets** could actually be harmful to the host country, because it **could undermine the competitiveness of the sector to the extent that foreign investments are reconsidered**. Gradually building up the local content share in O&G-related activities seems to be the best approach, but defining the appropriate rate of progress is still a complex task. In the case of Brazil, the share of local content to which O&G companies are ready to commit is one of the judgment criteria in the bidding rounds for oil concessions. This ranking system has been in place since the first bidding round organised in 1999. In 2003 the ANP introduced minimum shares of local content, defined according to the location of the oil block and for each project stage. These minimum requirements have been stepped up from one bidding round to the next, and the O&G companies have reinforced their commitments along the same lines.

Figure 3: Average local content commitments taken by O&G companies in the bidding rounds organised in Brazil for oil blocks



Source: website of the Superintendency of Licensing Rounds Promotion

Although the O&G sector in Brazil has now to deal with serious issues related to governance, there is a consensus that local participation has increased in the O&G activities and that the country has gained strong expertise in deep-water operations. However, there are concerns about whether the **local supply chain has sufficient capacity to meet the growing local content requirements** in times when high investments are to be carried out. For example, the shipyard industry was increasingly outsourcing the production of certain modules and hulls internationally to meet deadlines (DNB ASA, 2014). Before the launch of the 11th bidding round in 2013, Petrobras formally responded to the ANP's public consultation on the draft tender protocol and requested that the requirements for local content be relaxed for 34 items, compared to what was requested for the latest round of 2008. Petrobras justified its request by explaining that 'the minimum percentages of local content for the cited items and sub items cannot be met by the national supply chain'.[24] This request was not heard by the ANP at the time. The **local content challenge is even more important for the development of pre-salt reserves, because exploration in such ultra-deep fields is highly complex.** For the inaugural pre-salt auction organised in October 2013 for the Libra field, only 11 companies qualified to participate in the auction. Ultimately only one bid was above the minimum thresholds in terms of profit oil share and local content. Among other explanations for this relative shortage of bidders is that the high local content requirements (37% in the exploration phase, 55% in the development phase and 59% after 2022) may have played a role. This has further been identified as carrying a risk of delays and costs for the winning consortium (Ernst&Young, 2013).

- *Using sunset clauses to raise competitiveness of the domestic economy*

While it is of utmost importance to gradually build up the local content share, **getting ready to phase out the local content legislation is also essential.** Requirements regarding local content follow the infant industry argument, meaning that a strategy has to be in place to ensure that the industry becomes mature and globally competitive. In the first place, efficiency must be promoted so that investments in the host country are not reduced due to unbearable additional costs for the operating companies. Second, building a competitive domestic economy is a way to prepare for the time when natural resources will be exhausted. If competitive enough, the local firms will then remain contractors for O&G companies operating elsewhere in the world. In this perspective, local firms need to be given clarity on how long the protection will be applied and on how they will progressively be exposed to international competition. In addition, knowledge and technology spillovers have to be encouraged during the time that O&G companies are operating in the country. This can be done through fiscal incentives so that O&G companies invest in R&D in-country. In addition to building internationally competitive service providers, re-employment possibilities must be explored. In most projects, the construction phase is more labour-intensive than the development and production phase, meaning that employment will peak and then decrease to a lower permanent rate. This risk is pointed out in the handbook prepared by CNOOC, Total and Tullow for the promotion of local content in Uganda**. The joint venture partners draw attention to the fact that 80% of the jobs created will last only during the construction phase, which implies that transfers to other sectors or other countries will need to be considered for the post-peak period. These challenges show that without anticipation, local content strategies are unlikely to trigger sustainable economic development in host countries.**

c) Creating an enabling environment

Increasing local participation in O&G activities is more likely to happen if the local content strategy is part of a broader approach to development and is carried out under sound governance. An enabling environment needs

[24] Petrobras - FORMULÁRIO DE COMENTÁRIOS E SUGESTÕES, CONSULTA PÚBLICA Nº 02/2013, see: http://www.brasil-rounds.gov.br/round11/ingles_r11/audiencia.asp.

to be put in place for these economic linkages to develop, and both public authorities and the O&G companies can provide significant contributions in this area.

- *Building up skills*

As mentioned earlier, finding applicants with the relevant qualifications can be a challenge, and it is clear that investing in education will favour a better integration of manpower in O&G related activities. Initiatives to fill the competence gap can be made at the national level, as in Brazil with the creation of PROMINP (Programa de Mobilização da Indústria Nacional de Petróleo e Gás Natural) in 2003. The programme is run by Petrobras and the national development bank (BNDES) and provides training to local professionals. O&G companies are also engaging in human capacity building in the countries in which they operate. **Various examples can be found, as with Eni reporting that it has established a partnership called "Programma 200" with the University in Maputo.**[25] The aim is for 200 Mozambican graduates to engage in a multidisciplinary training programme or on-site training in the O&G sector abroad. Likewise, **Petronas reports that it awards scholarships to South Sudanese students for them to study at the Universiti Teknologi Petronas in Malaysia and to follow six months of industrial training programmes on operational sites.**[26]

- *Supporting local entrepreneurs*

Local suppliers need support as well. One aspect that is an obstacle for them in developing their activities and becoming contractors oftentimes is lack of access to sufficient monetary funds. In Nigeria, this aspect is tackled via the Nigerian Content Development Fund, which is used to guarantee lending to local companies. O&G companies are also active in this area. For instance, **Shell reports that it is working with five Nigerian banks which offer loans under favourable terms to Shell's suppliers.**[27] In 2013, 39 contractors had benefited from loans worth a total of $700 million. The support can also extend to advice on how local firms can develop their business in view of becoming suppliers to O&G companies. **In Papua New Guinea, BP reports that it has been organising mentoring sessions and workshops for more than 500 local firms since 2006.**[28]

- *Create robust infrastructures and facilitate access to energy*

Suppliers can only produce goods and services that meet high standards if they can rely on functioning infrastructures to perform their activities. Investing in infrastructures is a key enabler for domestic economies. In this respect, efforts to enhance access to energy are truly beneficial for development. This is an area in which O&G companies can provide a strong contribution by using a share of the resource produced to fuel power generation plants. **Eni has implemented a project of this type in the Republic of Congo, in the M'Boundi area. In 2010, Eni built an electric power station with an installed capacity of 300 MW.**[29] This station and another one in the area are now fuelled by gas extracted by Eni from the M'Boundi field and represent 60% of the installed capacity in Congo. In addition, Eni promotes electrification for the use of schools, health centres and the supply of drinking water. This is part of its programme called the Integrated Hinda Project (PIH), which aims at improving the living conditions of the inhabitants of the M'Boundi area. **With such initiatives, O&G companies can build upon their expertise and the host country can actually make use of its natural resources to the benefit of its population.**

[25] Eni (2014), "Eni for 2013".
[26] Petronas Sustainability Report 2013.
[27] Shell Sustainability Report 2013.
[28] BP Sustainability Review 2013.
[29] Eni (2014), "Eni for 2013".

CONCLUSION

Local content policies are often seen as a driver of industrialisation for oil and gas producing countries, providing employment to the local communities, accelerating the transfer of skills and technologies and strengthening entrepreneurship. Almost all O&G producing countries have been implementing local content policies, and the trend is toward strengthening these legal frameworks.

Likewise, these policies have become a key element for O&G companies, particularly in obtaining social license to operate and in gaining local acceptance. Although the decline of the oil prices these last few months changed the economy of some projects, it is clear that growing emphasis is placed on the promotion of local content. The analysis in this paper shows that the outcomes can be very different and success is not always guaranteed. The design of local content policies should take national development priorities into account, as well as the industrial basis, the local infrastructure, the regulatory and financial frameworks and the quality of the institutions. These policies should be developed with a long-term perspective, with the definition of realistic targets being adapted to the local context, in order to avoid heavy inefficiencies. **The regular dialogue between O&G companies and the governments of host countries is a key factor for success, in view of jointly assessing the needs and local potential and thus better designing local content strategies.**

Local content policies should not be regarded as stand-alone policies and should not be considered as the only driver for economic development in the country. To be successful, they should be part of a global approach of the management of O&G resources and of a wide strategy of transparency and good governance. In this regard, the IGU could provide valuable input by working on the potential incorporation of local content into the EITI process. This option should be further explored, as it brings all of the stakeholders to the table: civil society, companies, international institutions and governments. The use of the EITI process could facilitate the dialogue between all the actors in sharing experiences and developing collaborative approaches. It could also be the right platform to work on common standardised metrics for quantifying levels of local content in view of assessing the efficiency of local content policies implementation. The EITI innovative multi-stakeholders approach revealed the importance of adopting collective approaches to the governance of O&G resources. **Building on its wide cooperation network within the gas industry, IGU could encourage the development of such an information-sharing platform and hence enhance future progress in local content policies.**

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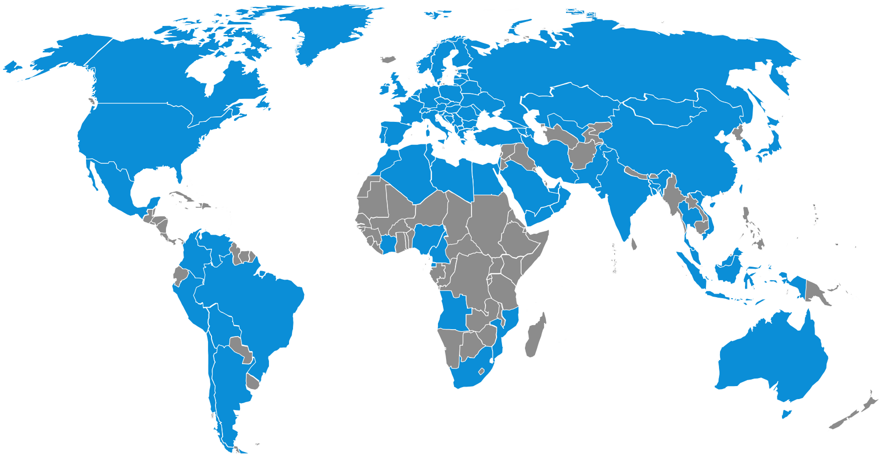

The International Gas Union (IGU) was founded in 1931 and is a worldwide non-profit organisation promoting the political, technical and economic progress of the gas industry with the mission to advocate for gas as an integral part of a sustainable global energy system. The IGU has more than 142 members worldwide and represents more than 97% of the world's gas market. The members are national associations and corporations of the gas industry. The working organisation of IGU covers the complete value chain of the gas industry from upstream to downstream. For more information please visit **www.igu.org**

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