Local Content policy is of strategic importance to a country because of the lasting benefits it brings to the nation, such as enhancing the domestic industry and generating more income and jobs for the population. Additionally, the encompassing nature of oil and gas activities allows for the involvement of several industries that work beyond the oil and gas sector, ultimately bringing positive impacts to the entire domestic industrial output of a country.

The comprehensive execution of a well-run Local Content policy promotes the expansion of the supply chain’s capacity on a competitive basis, allowing for the local industry to compete under equal conditions with its foreign counterparts. For a country the size and particular characteristics of Brazil, a competitive local industry reaps enormous results, because it can sell its services to a large global market, like the oil and gas sector, and it can also support its vast domestic market. Therefore, the Brazilian government and its lawmakers have long identified the Local Content policy in the oil and gas segment as a strategic tool to promote sustainable growth.

Local Content strategy is used in many countries, yet there is no universally agreed upon definition. Indeed, the definition is often specific to each country. In Brazil it refers to the percentage of locally produced goods, services and personnel rendered to the oil industry. Since its introduction, the Brazilian Local Content policy has sought to increase the participation of local companies in the provision of goods and services, improve professional training and technological development, enhance competitiveness amongst domestic companies and increase income and job generation.

This paper will present the policy’s main tenets, how the policy was implemented and analyze the lessons learned. This paper advocates the implementation of a balanced, rational Local Content policy. It argues that a sound, regulatory-backed policy can achieve the goals of bringing more income, jobs and long-term growth to the country, while at the same time enhancing the competitiveness of the country’s industries.

The Oil and Natural Gas Sector – Implementation

The current Brazilian Local Content policy started in 1997 with the approval of the Petroleum Law (Law nº 9.478). The Law set the framework for an open market, ending Petrobras’ - Brazil’s National Oil Company - state monopoly. It also established the CNPE (National Council for Energy Policy), linked to the Presidency of the Republic and presided by the Minister of Mines and Energy, whose duty it is to propose national policies and specific actions to the President of the Republic and ANP (National Agency of Petroleum, Natural Gas and Biofuels) the federal authority and body that oversees the oil and gas industry in Brazil.

According to ANP’s institutional framework, the Agency’s three core responsibilities are: Regulating, Contracting and Monitoring. ANP Bidding Rounds promote the contracting of exploration and production blocks, where E&P contracts containing specific local content requirements are signed between the Brazilian Government, via ANP, and the oil companies that win exploratory blocks at the Bidding Rounds.

Figure 1. Governance and Brazilian Oil & Gas Sector Key Players.

Source: NNF (2016)
Local content in Brazil is measured by the percentage of the domestic industry’s participation in the supply of goods and services for a particular project. It has covered all Exploration and Production contracts that have been signed between ANP and the operators since 1999. From the 1st Bidding Round held in 1999 until the 13th Round in 2015, the government included bidders’ Local Content offer as one of the three bid factors to determine winning concessionaires from the auctions. On top of the bidding requirements, all contracts contain a Local Content clause (typically Clause 20) stating that oil companies must assign preference to acquiring Brazilian goods and services on a competitive basis, when price, delivery dates and quality are equivalent to foreign counterparts.

Throughout this period, the government and ANP consistently included new criteria at each bidding round to improve the system - establishing minimum and maximum Local Content levels; specific Local Content percentages according to block location (onshore, shallow waters and deep waters); and Local Content certificates to attest requirements were met.

The Local Content certification system sets out to measure and report the Local Content commitments contracted by the concessionaires. These activities are performed by Certification Bodies that are previously accredited by ANP. In order to affirm that the contracted goods and services carry Local Content percentages, the concessionaires must acquire the services of a Certification Body. Following the certification methodology described in the Local Content Primer, the Certification Bodies issue Local Content Certificates that are ultimately sent to ANP and used as part of the monitoring and inspection process.

The Local Content clause in E&P contracts also states that failure to meet the contractual requirements leads to penalties in the form of fines that are monitored, calculated and imposed by ANP. All monitoring and inspection processes are executed by ANP. Another feature in the Local Content Clause is the exemption mechanism known as the Waiver Clause. It consists of dispensation by ANP of the fulfillment of a certain Local Content commitment in relation to a certain product or service, through the due proof of the impossibility or the lack of commercial, technical or operational feasibility of acquiring certain goods and services in Brazil.
Local Content Policy in Brazil – Results

The Local Content policy has had a great effect on supporting industries. From the start of the Brazilian Bidding Rounds in 1999 until the beginning of the Brazilian economic crisis in 2013, the policy achieved significant results in promoting domestic companies in the oil and gas sector, and improving employability in many segments within the supply chain.

The Brazilian naval industry experienced a revitalization period from the early 2000s until the first part of the current decade, based on funds granted by government programs and increased demand from Local Content commitments. As a consequence, the number of employees in the sector jumped from less than 3,000 in 2003 to over 70,000 in 2013.

Several other sectors improved in performance and expanded their capacity across the country, mainly due to the effects of the Local Content policy. Despite different levels of prioritization, capital goods industry and the fabrication segment (pressure vessels, tanks, heat exchanger, metal structures, accessories and pipes), machinery and equipment, metallurgical industry, modules and topsides (engineering, manufacturing and installation), subsea equipment, high technology machines and drilling and completion equipment, control systems and umbilicals, all demonstrated considerable growth.

The modules manufacturing segment gained several new players, including Brazilian companies who offered this type of service. In the subsea segment, most of relevant global OEMs (Original Equipment Manufacturers), who had already been in the country, substantially increased their investments in the country over the last 20 years. This allowed for the production of subsea equipment at high Local Content levels. The OEMs also invested in national R&D, setting up Research and Development Centers units in Brazil.

To better understand the impact Local Content policy has had in the Exploration and Production sector, it is important to look at the growth in investment. In the year 2000 the E&P chain received investments on the order of US$4 billion. By 2013, these figures had grown to US$40 billion. Petrobras contracted large quantities of goods and services, at rates far above the supply chain’s production capacity. It led to the expansion of several suppliers’ delivery capacity, followed by significant increases in prices and deadlines, saturating the market. This sizeable growth brought both positive and negative effects to the industry, because arguably not a single industry in the world would be able to cope with this substantial growth in such a short period of time.

According to PROMINP’s (Program for Mobilization of the National Oil and Natural Gas Industry) – one of the government-induced programs to boost local capacity in the country – indicator, the participation of national industry in the oil & gas sector increased from 57% in 2003 to 75% in the first half of 2010. This growth represented an additional value of US$21.5 billion worth of goods and services contracted in the domestic market and the generation of more than 875,000 jobs during this period.

Local Content Policy in Brazil – What Did Not Work

Despite positive results in terms of increased participation of the domestic companies in all areas of the supply chain, the process has not been smooth and several decisions were met with resistance from the industry. Some of the decisions taken ultimately served to undermine the original tenets of the Local Content policy, which led to fierce criticism of the policy itself and the strong revisions the industry has overseen over the last two years.

The policy execution lacked a central strategic plan to gradually implement the reforms in accordance with the country’s supply chain reality. The policy’s general objec-
tives were quickly imposed without focused targets, and from the beginning it lacked advanced metrics or indicators that could accurately measure its results, apart from higher investment (which mainly came from government subsidies).

ANP has varied the procedures, requirements and monitoring of Local Content throughout the bidding rounds. The adoption of the long and detailed Local Content Table and the new methodology, imposed by the Government, from the 7th Round until the 13th Round proved to be bureaucratic, demanding and complex for the industry to follow.

The excessive levels of Local Content percentage requirements did not take into account the actual installed capacity in the country at the time they were defined, which in the case of many items generated insurmountable targets that were impossible to achieve and did not reflect market reality. This resulted in project execution delays and heavy fines for both the operators and the suppliers. Besides that, some requirements granted a level of protectionism to some goods and services that resulted in expensive prices and longer delivery time, higher than those on the international market. This was not what the Local Content policy stood for as it harmed competitiveness and did not improve the domestic companies’ efficiency.

Other negative considerations concerned the length and inflexibility of the Local Content Table. The Table featured over 90 items, each one carrying commitments, and it was too detailed. The need to determine Local Content requirements for activities that would occur six, eight or even ten years in the future was an impossible exercise that brought the effectiveness of the Local Content model into question. It ignored relevant market variants, such as macroeconomic conditions, oil prices, or the advent of new technologies.

The ensuing struggle to follow the Table’s requirements resulted in an excessive level of penalties to operators who could not meet local content requirements agreed upon, which in turn were usually transferred, at least in part, to the supply chain. The policy acquired a punitive nature over time, yet the fines quickly became counterproductive as they affected both the operators and the supply chain.

Despite the relevance of the exemption mechanism (waiver) for the Local Content Certification System, ANP has yet to formally rule on standard and isonomic procedures for this matter. Moreover, ANP received a great deal of criticism surrounding the timing and its responsiveness to the requests from operators, which hindered the industry’s investment decisions.

**Local Content Policy in Brazil – Revision and Changes for the Future**

In light of the criticism the Local Content policy faced, the main stakeholders – industry, regulator and government ministries – have decided to review the policy and initiate a discussion to improve it for all concerned parties.

The first revision sought to change Local Content rules for the 14th Bidding Round, to be held in September 2017. During the course of the policy review, oil firms advocated for more flexible Local Content terms, reducing the long and detailed 90-item Local Content Table to just 2 items (1 for exploration and 1 for development). The argument was that the requirements led to higher costs and too many fines, which ultimately hindered investments in the industry. The domestic service and supply industry argued that a strong Local Content commitment was important to develop local companies to a global competitive level.

Eventually significant changes to the Local Content rules were implemented in advance of the 14th Bidding Round set for September 2017. Beginning with the 14th Bidding Round, Local Content will no longer serve as a bid factor, yet will remain as a contractual clause with percentage requirements to be respected by the oil companies. In addition, the Local Content Table was replaced by a table with 6 macrosegments: Onshore Exploration, Onshore Development of Production, Offshore Exploration, Offshore Wells, Subsea Systems and Offshore Production Platforms.

**Figure 5. Local Content Requirements – Comparison of Past and Present**

<table>
<thead>
<tr>
<th>LC until the 13th Bidding Round</th>
<th>CURRENT LC (14th Bidding Round)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Factor – 20% final grade</td>
<td>Not a Bid Factor</td>
</tr>
<tr>
<td>Minimum requirements (%) set in the E&amp;P contract</td>
<td>Minimum requirements (%) set in the E&amp;P contract</td>
</tr>
<tr>
<td>Local Content Table – over 90 items</td>
<td>Local Content Table – 6 macrosegments</td>
</tr>
<tr>
<td>% Requirements at global, stage, item and sub-item levels</td>
<td>% Requirements at global level</td>
</tr>
<tr>
<td>Penalties for not fulfilling the requirements</td>
<td>Penalties for not fulfilling the requirements</td>
</tr>
<tr>
<td>Waiver – exemption mechanism</td>
<td>NO Waiver</td>
</tr>
</tbody>
</table>

Source: NNF (2017)
Local Content obligations under the macrosegments were drastically reduced when compared to the Local Content Table. The outcome was greeted by oil firms, who understood the new process would be more appealing to companies willing to invest in the Brazilian oil and gas industry, therefore bringing more investment and jobs to the region. Conversely, it disappointed the domestic service and equipment companies, because they believe the oil companies would now be able to meet Local Content requirements mainly through services and through a few specific global players that already operate in Brazil (e.g. well services and OEM), therefore leaving Brazilian equipment and engineering companies in the dark.

Another revision to the Local Content policy was the introduction of the PEDEFOR (Program to Encourage Supply Chain Competitiveness and the Development and Improvement of Suppliers in the Oil and Natural Gas Sector) program in January 2016 by the Brazilian government. PEDEFOR is designed to stimulate the domestic supply chain and provide incentives for operators and service companies that invest large sums of money towards developing the industry in Brazil.

The program aims to offer a counterpoint to the punitive Local Content inspection, which is based around handing out heavy fines to operators that fail to meet their contractual Local Content requirements. One of the major complaints with regards to the existing Local Content policy was that the penalties hindered investments in the sector. The industry understands that Local Content regulation should acknowledge alternative methods to stimulate Local Content, such as capital investments. The current Local Content policy only acknowledges local content as the percentage of domestic goods and services rendered to the oil and gas industry. The PEDEFOR program seeks to expand this definition to include investments in new operational plants, R&D centers and investments to bring new technologies to be applied in the Brazilian oil and gas industry as local content indicators too.

However, the implementation of the policy has also faced its criticism. Even though the policy’s main tenets have all been incorporated, it lacked strategic planning to correctly balance the policy’s needs with the country’s market reality. The general perception is that the Local Content policy has progressed through a trial and error process rather than receiving proper evaluation and support from the government. These developments led to makeshift solutions, whose results sometimes deviated from the original goals, generated a clash of interests between the industry’s main stakeholders that ultimately led to revisions of the policy and radical changes.

The Local Content experience moved from flexible contractual requirements at the beginning to a more complex and bureaucratic methodology along the way. These changes resulted in targets that greatly stressed the market reality, higher costs to the operations and fines absorbed by the entire industry, as the Local Content clause was adamant that failure to comply with contractual requirements was subject to penalties.

It is important to underscore this issue because over the years it had been initially underestimated by operators and then it subsequently became a controversial topic that threatened to undermine the effectiveness of the Local Content policy. The application of penalties has been contested by several stakeholders in the industry, up to the point where major revisions such as the simplification of

**Local Content Policy in Brazil – Conclusions**

Over the last 20 years, despite the difficulties presented over time, the Local Content experience has been important for the country and some of its targets have been successfully achieved. The Brazilian industry responded to the challenges of modernizing and developing itself over the last 15 years. Several Brazilian service companies attained greater visibility, and by participating in more bids, the companies became more competitive in a global scenario. Capacity building also delivered positive results, as the demand for more jobs resulted in the training of skilled labor, and the higher academic qualification of professionals. The policy also brought the development of new technologies through investments in Research Centers in Brazil.
the Local Content Table and the PEDEFOR program took place to offer alternatives.

These were the reasons why it was necessary to revise the Local Content Table, the penalty system and bring together the main stakeholders to find common solutions based on rationality and market principles. An effective policy must contain reasonable commitments in tune with market realities. The development of local suppliers must go in tandem with the investments of oil companies in exploration and production activities. If the industry does not reach a balance, it will be difficult for the oil companies to operate in Brazil at competitive levels, which would in turn jeopardize the development of the local companies into competitive players.

Local Content Policy in Brazil – Suggestions

To conclude this paper, we offer a series of suggestions and actions that could be implemented to improve the Local Content model. We recommend that:

1. Local Content criteria should not be a bid factor, but should remain a contractual clause with clear rules and guidelines;

2. In addition to the macrosegments defined for the 14th Bidding Round, it is important to establish requirements for engineering, associated goods & services and logistics supports;

3. Local Content percentage requirements should be set only for the Development of Production Stage. The Exploration Phase involves high-risk activities, and exploratory risk is borne solely by the operators, therefore specific requirements should be held at a minimum for this stage. Nevertheless, the definition of Local Content percentages at the time of the Rounds is necessary, however it should be an assessment of the operator’s commitment to the local industry, with enough flexibility to adjust to evolving market realities. The operating companies should propose a level of Local Content with the commitment to break them down (Engineering, associated goods & services and logistics supports) in the Development Plan, which it is the moment investment decisions take place. The breakdown commitments would have to match the minimum level required in the contract.

   a. This means that the requirements would be made closer to the execution of the activities thus more accurately reflecting the state of Brazilian industry and being more in tune with market conditions.

4. The inspection of Local Content contractual commitments should occur at the end of each activity, as opposed to the end of the Exploration Phase and Development Stage.

Brazil is blessed with a diverse domestic economy that distinguishes the country from the majority of oil producing countries. The country boasts vast reserves of all kinds of natural resources, including the prolific pre-salt geology, and a strong internal market, as well as a sophisticated local industry that is able to perform engineering and manufacturing from nanotechnology components all the way to rockets, aircrafts, vessels and complex components. Given that most oil resources are concentrated in countries that lack a strong and developed domestic industry, it is difficult to find an oil producing market with such strong fundamentals.

Yet, there is plenty of room to increase the country’s productivity and competitiveness. In many ways, Brazilian companies are competitive “inside the plant,” but once the equipment leaves the facilities, it is exposed to what is known as custo Brasil (Brazil cost). This phenomenon refers to complex tax regulation, inefficient government bureaucracy, restrictive labor regulation, corruption and inadequate supply of infrastructure notorious in Brazil.
All these topics reduce the competitiveness of local companies and hamper the effectiveness of the Local Content policy. Thus, in order to foster the success of the Local Content policy, it is equally important to reduce Brazil cost’s inefficiencies together with the policy improvements highlighted in this paper.

Another important issue to improve domestic productivity is to promote a market environment where the suppliers have more than one buyer in the segment. Several times a single buyer market generates customized specifications or procedures that do not follow global market trends, which in return can interfere in the suppliers’ productivity.

Nevertheless, the suggestions above do not substitute the most important aspect for the implementation of a successful Local Content policy: the need to directly integrate it within a larger all-encompassing industrial policy of a nation. As we have argued, Local Content must be part of a major strategic plan that also takes into account other important aspects such as capacity building, taxation, incentives to local supporting industries and other factors that lead to the systemic development of industry and ultimately the country as a whole. This interconnectivity brings well defined strategies that promote the expansion of the supply chain’s capacity on a competitive basis.

The lessons from Brazil underscore that, if executed mindful of the elements we have outlined and if done so in a deliberate manner, Local Content is a perfectly reasonable strategy for ensuring the evolution of local industry so that it can compete under equal conditions with its foreign counterparts. To do otherwise opens government and industry to unneeded challenges and friction, and can hamper the goals of all stakeholders for investment, job creation and economic development.

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