



PUBLIC POLICIES PROPOSAL

**FOR SOCIOECONOMIC DEVELOPMENT
THROUGH INVESTMENTS IN EXPLORATION AND
PRODUCTION OFFSHORE**

FINAL REPORT 2015







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BAIN & COMPANY 

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This study was developed by
Bain & Company.

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PRESENTATION

Oil and Gas sector (O&G) currently faces one of the greatest windows of opportunities in terms of growth and development in Brazilian history. The total potential of non-explored areas - especially in the pre-salt - shall more than double the 65 billion barrels of oil equivalent (boe) of current estimate of reserves. In fact: in the next twenty years, the country will rise to the rank of the 15 biggest oil reserves on the planet, in a position of political stability becoming extremely attractive to the offshore exploration and production business.

Considering this unprecedented scenario, even in the global landscape, the Brazilian Petroleum, Natural Gas and Biofuels Institute (IBP) hired the international consultant Bain & Company to analyze the possibilities, focusing on how to maximize the Brazilian socioeconomic development, leveraging this dynamism expected for the next decades.





Bain was selected for having recently developed a study on the regulatory regimes, sovereign funds and development of the value chain for the National Bank for Economic and Social Development (BNDES), demonstrating, therefore, experience related to the public sector affairs. Recently, Bain's specialists also worked on the analysis of a strategy for Brazil, requested by Sao Paulo State Federation of Industry (FIESP), which allowed them to examine many industrial segments. For this study, the consulting company started from numerous established diagnoses of the Oil & Gas sector and worldwide benchmarking to build up an initial point of view for the wider sector debate.

At first, it will be presented that the current enabling policies by the government, combined with the local content policy, are already materializing significant results. The Federal Government long has foreseen the positives socioeconomic outcomes that a well-orchestrated work with the Oil & Gas sector can have in Brazil, offering financing in preferential conditions, tax reductions and also r&d incentives.

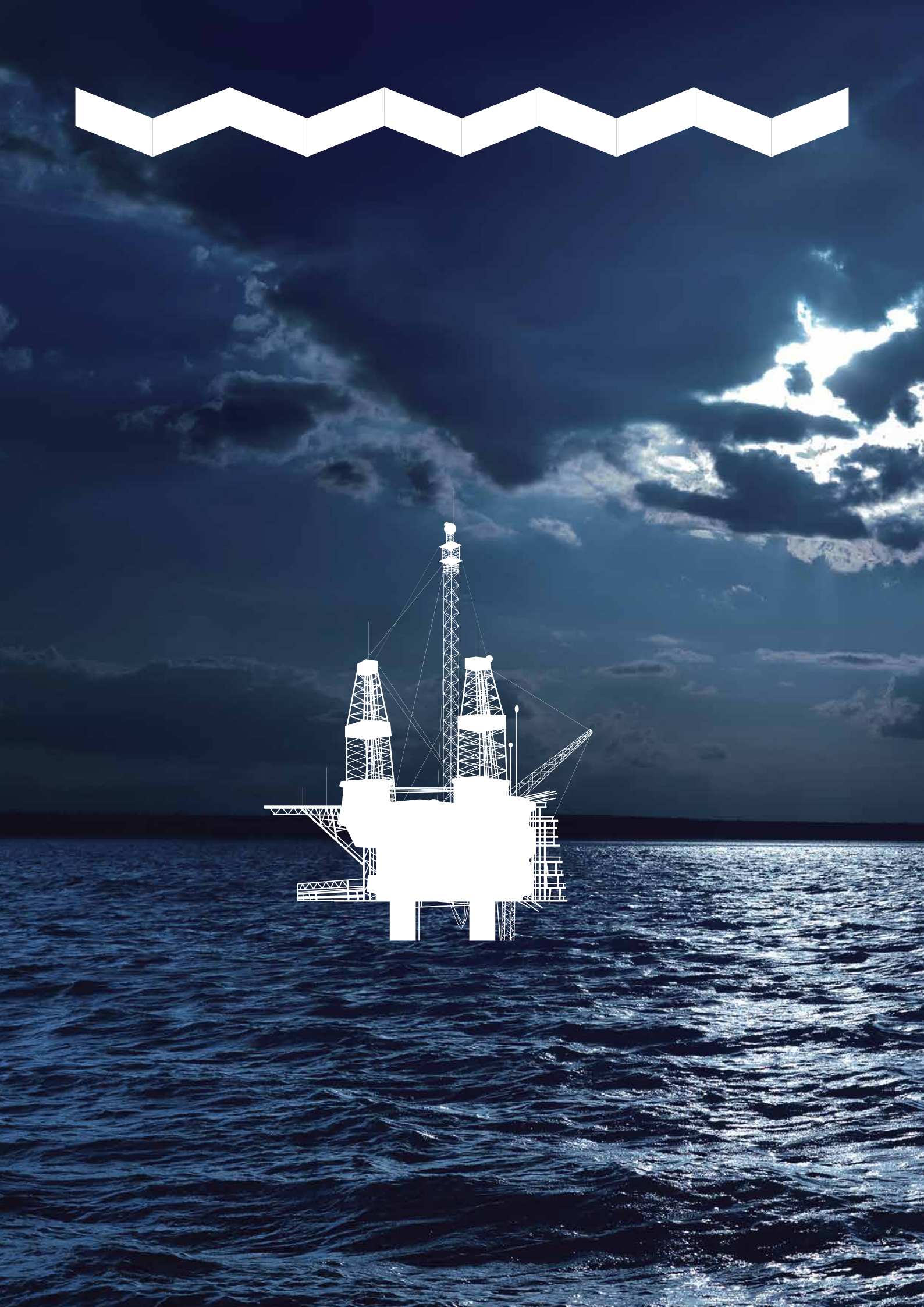
In order to maximize these results, the study looked at understanding the expectations of a group of 75 strategic stakeholders with regards to the desired socioeconomic contribution for Brazil's offshore supply chain in the near future. This interviewed pool set the objectives to be materialized - as GDP growth, job creation, labor qualification, manufacturing location and R,D&I.

With the objectives set, priority was given to ten segments which local content can better respond to the ambitions exposed by the interviewed pool. Thereafter, the segments were divided by business synergy and targets were set for short, medium and long term.

Finally, a contribution emerges to speed up the development of the Brazilian model of investments in Local Content, reinforcing the impact of adjustments in the enabling policies. IBP believes that the following pages will open a path for discussing the necessary developments and complements to the existing policies, with the purpose to achieve the desired capacity and competitiveness.

Good reading!





CHAPTER 1

PRESENT
SCENARIO
AND FUTURE
CHALLENGE





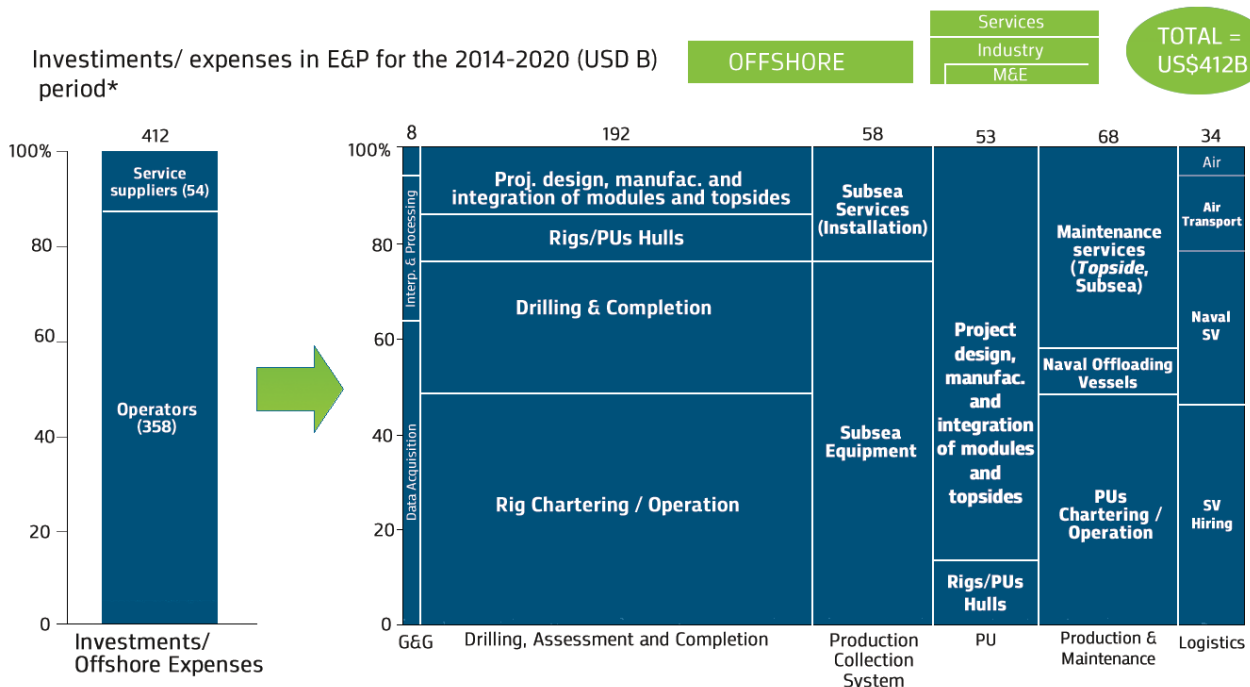
The Brazilian Oil & Gas sector has been through profound transformations since its market opening, in 1997. The attraction of foreign investments granted new dynamics to this industry, adding significant results to Petrobras' experience and leadership in the country. This significant success can be witnessed under several perspectives, such as, the increase in the amount of investments, production, search for new reserves and government take.

Due to the pre-salt discoveries, in 2006, Brazil has improved its position in the list of world's largest oil reserves, with a forecast of becoming one of the global leaders in production. In this scenario, the country also stands out for his political stability compared to other nations on the top of this select rank.

At the national level, the pre-salt established a new milestone for the Oil & Gas industry in Brazil, creating not only new challenges, but also opportunities for socioeconomic development through the demand for its wide goods and services supply chain. The industry will receive, between investments and direct expenses, an amount around US\$ 412 billion, from 2014 to 2020, considering the activities of operators and suppliers.

The next figure presents, on the left, the amount of investments from operators and suppliers. On the right, it shows the distribution among the several segments in offshore Exploration & Production (E&P) at the same period.

Figure 1 - Investments and direct expenses in offshore E&P



* Does not include M&E

Source: Petrobras' Business Plan 2014-2018, Clippings , Prominp, ONIP, IBP, Bain's Analysis










Throughout the bid rounds of exploration blocks, Federal Government has created policies to promote development, including preference terms, financing, tax reduction, R,D&I incentives and several types of strategic measures aiming at structuring this chain.

REPETRO is a significant example. It is a special customs procedure which allows importation of specific equipment to be used in the Oil & Gas industry without incurring federal taxes - Tax on Imported Foreign Products (II), Tax on Manufactured Products (IPI), Social Integration Program (PIS) and the Contribution for

Social Security Funding (Cofins), besides the additional freight charges for Merchant Navy renewal (AFRMM). It is also applied to the importation of raw materials, semi-finished products, components, aiming at production for export trade. In some Brazilian states, it also benefits tax exemption or the reduction of the tax base to be considered for the ICMS (State Tax on the Circulation of Goods and Services).

The table below summarizes the advantages of nine measures created in recent years that leverage Oil & Gas business in Brazil.

Figure 2 - Current enabling policies for the Oil & Gas sector

PROMINP	ONIP	INOVA PETRO	SPECIAL PARTICIP. FEE	BNDES P&G	REPETRO	REPORTO	REPLAT	REB
								
<ul style="list-style-type: none"> National Program coordinated by MME (through Petrobras) which the goal is to develop the Oil & Gas chain. Program already financed and implemented ~50 projects: <ul style="list-style-type: none"> Industry's technology development (Prominp Technology) Labor qualification (training for + 78,000 people) Sector's competitiveness improvement (studies and sector's discussions) 	<ul style="list-style-type: none"> Private institution that contributes for the development of the sector and local content promotion through: <ul style="list-style-type: none"> Forums promotion between companies, operators and government Provides information and opportunities (registers by sector, Vendor List) Auditing and consulting regarding local content vendor list certification Development of suppliers 	<ul style="list-style-type: none"> Inova Petro - Joint initiative between Finep and BNDES with technical support by Petrobras. It aims at fostering projects with R&D, engineering, technology absorption, production and trade of innovative goods, process/services. Expected to contribute for local content increase and for more competitiveness and sustainability in the national supply chain. Financing source: FNDCT; FAT; BNDES 	<ul style="list-style-type: none"> High productive fields might pay Special Participation Fee (PE) 1% of gross income from fields' production that pay PE should be destined to R&D activities Contribution must be destined to R&D projects: <ul style="list-style-type: none"> Inhouse the operators Partnerships between operators and universities or research institutes registers by ANP Partnership with supply chain companies. 	<ul style="list-style-type: none"> BNDES P&G - program that offers credit lines to the sector with interest rate at ~7-11%* year with terms of up to 14 years to: <ul style="list-style-type: none"> Capital Assets investments in M&E Shareholding interest (M&A), including abroad Export support Innovation Working capital financing E.g. Progridir, Petrobras program for advancing receivables to the upstream link of the chain 	<ul style="list-style-type: none"> Special Tax Regime hat reduces fiscal burden in E&P investments Allows, along with the drawback regime and "ex-tarifário" (tax reduction), total exemption in IPI, PIS and COFINS and exemption or reduction of the value base of ICMS (depending on the State) applied on "ficta" export and import of Oil&Gas goods for E&P 	<ul style="list-style-type: none"> Tax Regime for incentives to modernization and expansion of the port structure, reducing the emergence of logistics bottlenecks in ports infrastructure. Machinery, equipment and other goods to be used in ports have: <ul style="list-style-type: none"> Tax exemption in IPI, PIS/PASEP and COFINS in sales to the domestic market Tax exemption in IPI, PIS/PASEP, COFINS and Import tax in import 	<ul style="list-style-type: none"> Customs Warehouse Special Regime for platforms being build or converted in the country, hired by foreign-based companies, destined to oil and gas exploration and production Federal tax exemption that aims to benefit the Ficta-Repetro process and is applied to materials, parts and components. 	<ul style="list-style-type: none"> Brazil's Special Register for encouraging local shipowners to use Brazilian flag vessels Foresees fiscal benefits in purchases by Brazilian shipyards of parts and components destined to the maintenance, upgrade, repair and conversion of vessels registered in the REB Also foresees the suspension of flag for bringing up to the double tonnage in the period that vessels are being assembled by Brazilian shipyards

Note: Until 2012 it lasted the Sector Fund CT- Petro, whose collection has ceased to exist after the change of Law 9.478/97 through the Law 12.351/2012 * TJLP~6% + BNDES remuneration 0,5 - 2,5% + Credit risk 0,5 - 2,5% (base 2012).
Source: MME, Repetro, Prominp, ONIP, BNDES, FINEP, Petrobras, Interviews with Specialists

It is important to add the Local Content (LC) policy to those measures, which gradually matured with every new Bid Round. LC is defined as the share of the national industry in the supply of goods and services for a specific enterprise. Its intention is to enhance jobs crea-

tion and production capacity. In this case, not only by the oil production itself, but by strengthening the whole supply chain. The next figure ranks the evolution of Local Content policies in approved and delivered Bid Rounds, since 1998.

Figure 3 - Evolution of Local Content policies per Bid Round

Round:	1998	1999-2002	2003-2004	2005-2013	2013
Minimal requirements:	<p>0</p> <p>✗</p> <ul style="list-style-type: none"> Without minimum level; preference for local suppliers with similar conditions 	<p>1-4</p> <p>✗</p> <ul style="list-style-type: none"> Without minimum level; used only as a criterion for concessionary selection 	<p>5-6</p> <p>✓</p> <ul style="list-style-type: none"> Minimum LC% by: <ul style="list-style-type: none"> - Onshore: 70% - Shallow water: 50-60% - Deepwater: 30% - Variations per phase (Exp. or Develop.) 	<p>7-12</p> <p>✓</p> <ul style="list-style-type: none"> Min & max LC % by: <ul style="list-style-type: none"> - Block type (onshore, offshore) - Phase (Exp. or Develop) - Item e sub-item 	<p>Production Sharing</p> <p>✓</p> <ul style="list-style-type: none"> Min & max LC % by: <ul style="list-style-type: none"> - Phase (Exp. or Develop) - Item e sub-item
LC weight in Bid proposal:	-	15%	40%	20%	-
Measurement rules:		<ul style="list-style-type: none"> Declaration of origin Measured in the phase (expl. and develop.) If item reaches <80% LC is zero; >80% LC is 100% 	<ul style="list-style-type: none"> Declaration of origin Measured in the phase If the good reaches <60% LC is zero; >60% LC is 100% If service reaches <80% LC is zero; >80% LC is 100% 	<ul style="list-style-type: none"> Certification performed by registered entitites Measured in the phase, item and sub-item 	<ul style="list-style-type: none"> Certification performed by registered entitites Measured in the phase, item and sub-item

Source: ANP, interviews with specialists, Bain's analysis

Since the first Bid Round of oil & gas exploration and production blocks in Brazil, the government has sought to establish LC policies that could grant opportunities to local suppliers to participate in tenders, on equal conditions, to offer goods and services to the sector. Besides the improvement in details on each new evolution, LC started to be considered as a selection criterion of concessionaires and minimal quotas requirements were established.

The combination of enabling policies and LC already materialized significant results in a considerably short term. The priority analysis defined by the Federal Government shows that the Brazilian industry effectively responded in the last decade to points intended to be developed. The following figure shows that the three items in the top of the government list are accountable for a historical legacy.

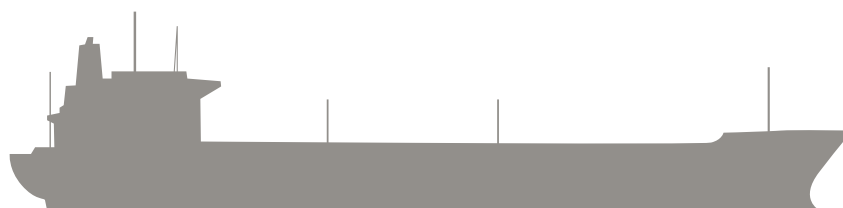


Figure 4 - Implicit priority and examples of achieved results

IMPLICIT PRIORITY IN LC INTERVAL ESTABLISHED BY ANP

■ High LC Requirements

- 1 Project design, manufacturing and integration of modules and topsides
 - 2 Building of hulls
 - 3 Subsea Equipment
 - 4 High technology machinery and equipment
 - 5 Medium technology machinery and equipment
- Medium LC Requirement
- 6 Medium technology drilling and completion
 - 7 Systems control
 - 8 Subsea umbilicals

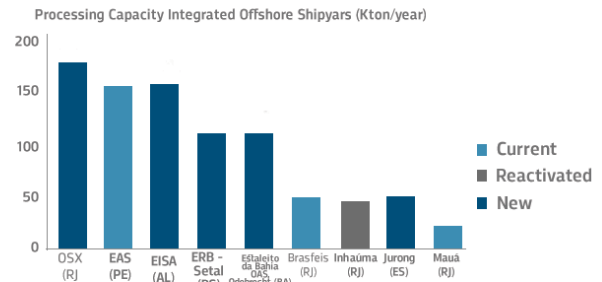
Source: ANP, Bain's analysis

EXAMPLES OF ACHIEVED RESULTS

- 1 Development of several local suppliers for modules manufacturing and integration.



- 2 Implementation of drydocks capacity in several regions of Braz



- 3 Implementation of Manufacturing and R&D capacity of Subsea equipment global companies



Modules manufacturing, for example, has indeed new companies, including Brazilian ones, offering this kind of service in the country. Today, Brazil has more dry dock capacity for constructing hulls. Subsea equipment manufacturing registers even bigger achievements: all relevant global suppliers invested in manufacturing facilities and also in R,D&I locally.

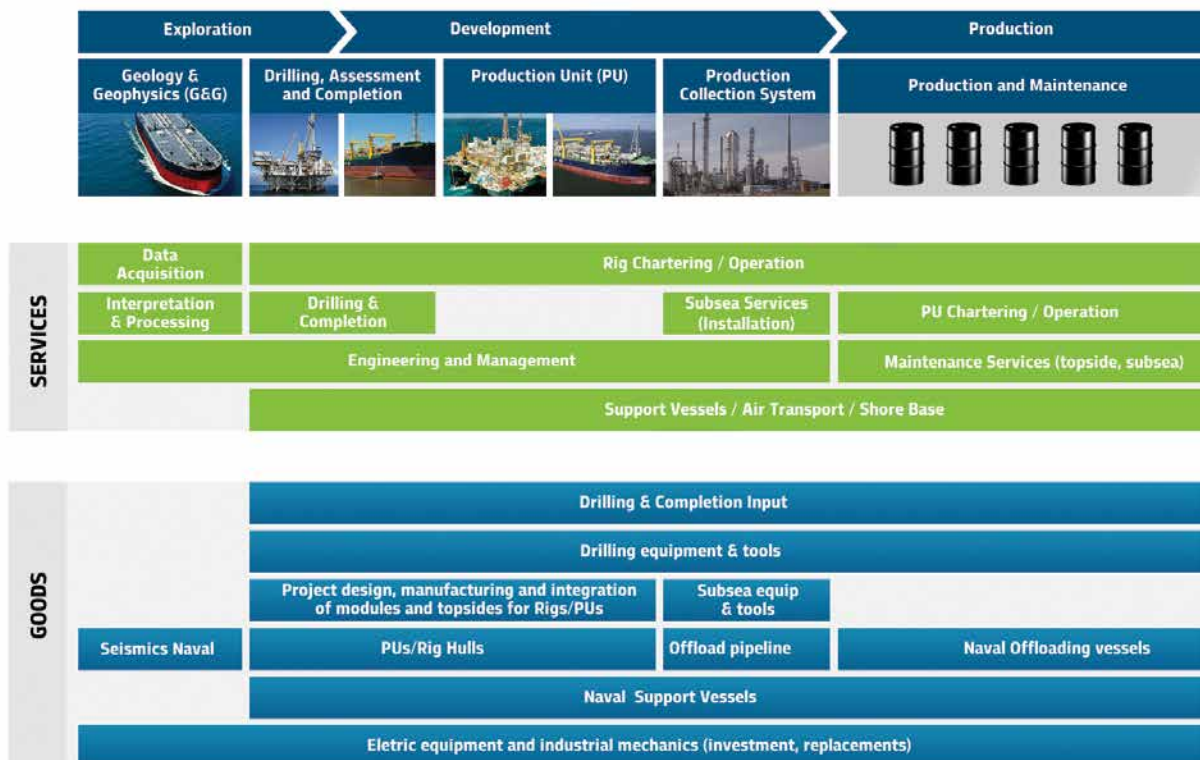


ENORMOUS CHALLENGE

The discovery of the Oil & Gas pre-salt reserves has brought a challenge of even bigger proportions to the nation. Acknowledged diagnostics developed by Petrobras, through its program for Mobilization of the National Oil & Gas Industry (Prominp), and by National Oil Industry Organization (Onip) attest that new advances in development policies are necessary in order to align the offer of production factors - such as, raw materials, electrical energy, labor, etc. - to the necessities of the installed capacity. Especially because the offshore E&P affects many segments of the Economy. The figure below presents the phases of the activity - exploration, development and production - and its respective developments.

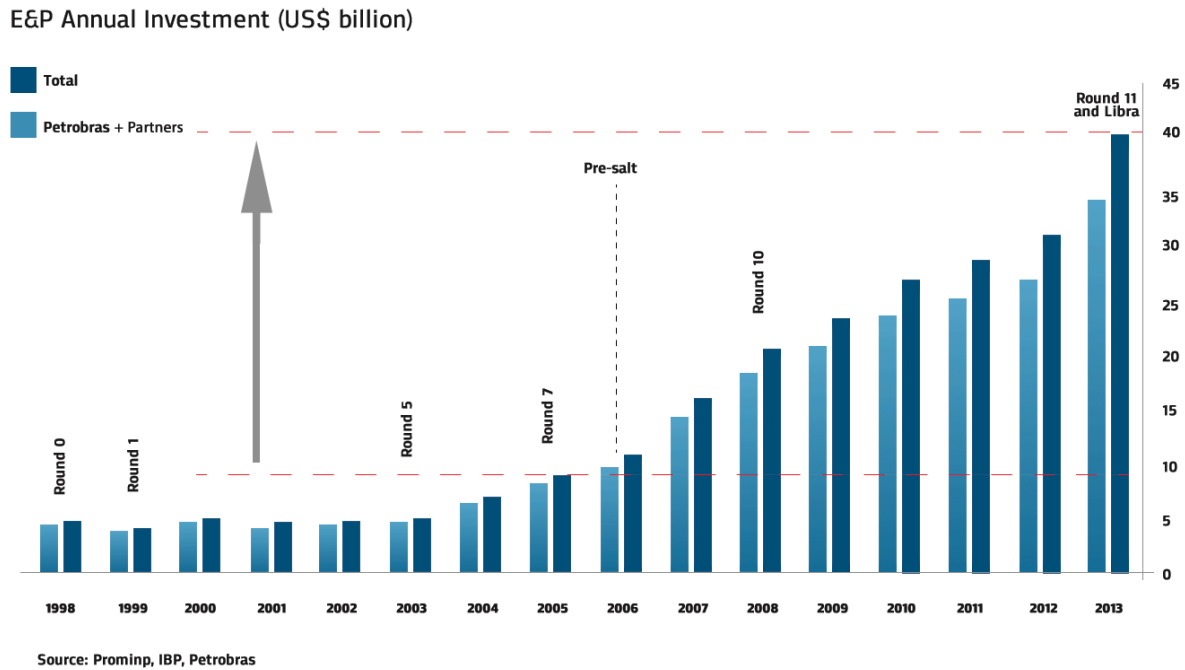


Figure 5 - Offshore E&P Supply Chain



To have a clear picture, in 2000, this supply chain received investments in the order of US\$ 4 billion. In 2013, investments reached US\$ 40 billion, therefore, even if LC percentages remained at the same level in exploration campaigns and development of new fields, this change in investment scale would require a supply increase of around 900%.

Figure 6 - Evolution of Annual Investment in E&P



Another important parameter: in 2012, the Oil & Gas sector was accountable for 12% of the Brazilian Gross Domestic Product (GDP), however, it is expected to reach a 20% level until 2020. Regarding employment, the scenario brought by the pre-salt implies the creation of, approximately, 420,000 new direct and indirect jobs, as well as the proper qualification of this labor force.

TIME FOR REFLECTION

A brief historical analysis shows that the last development in the LC policy in Round 7, in 2005, and still in force, proposed changes in the measuring methodology of the embedded LC and introduced the Local Content Booklet, a document that defines the current guidelines for LC verification. The rule got stricter in a series of specific sectors. The impact of these new obligations on the orders from suppliers occurred through the years and will be more clear in 2015 (ten years anniversary), typically a necessary period for exploration and appraisal activities to eventually turn into the development of discoveries.

At the time the booklet was issued, the national industry was considered to have spare capacity and growth estimations for the supply chain of the Oil & Gas sector were made based on a US\$ 7 billion

annual investments outlook. In the following year, the pre-salt discovery drastically changed this landscape. Nonetheless, the rule conceived to act through a decade in a industry with spare capacity is still applied to a demand that will increase six times more. In other words, the same LC percentages are applicable to a base value several times bigger, causing enormous challenges to the sector, especially regarding to the increase of the supply chain production capacity.

At the same time, even companies that invested in Brazil in the last years, already doubling their production capacity, would still be unable to deliver the required LC for the significant pre-salt demand. This situation becomes even more delicate from the perspective of the natural laws of supply and demand (business attractiveness).

If, in 2005, the plan was to reach 50% of LC (around US\$ 3,5 billions) and in the next ten years the E&P supply chain achieved the tremendous effort of tripling its supply capacity (reaching around US\$ 10 billion, a growth of almost 12% per year, extremely aggressive for any industrial segments), even so it would achieve a LC level of less than 30% considering the 2016 expected demand of US\$ 40 billions - Figure 21).

Thereby, LC demand will hardly be met at its peak, even if investments are spread through the years, for it would not be a natural response from

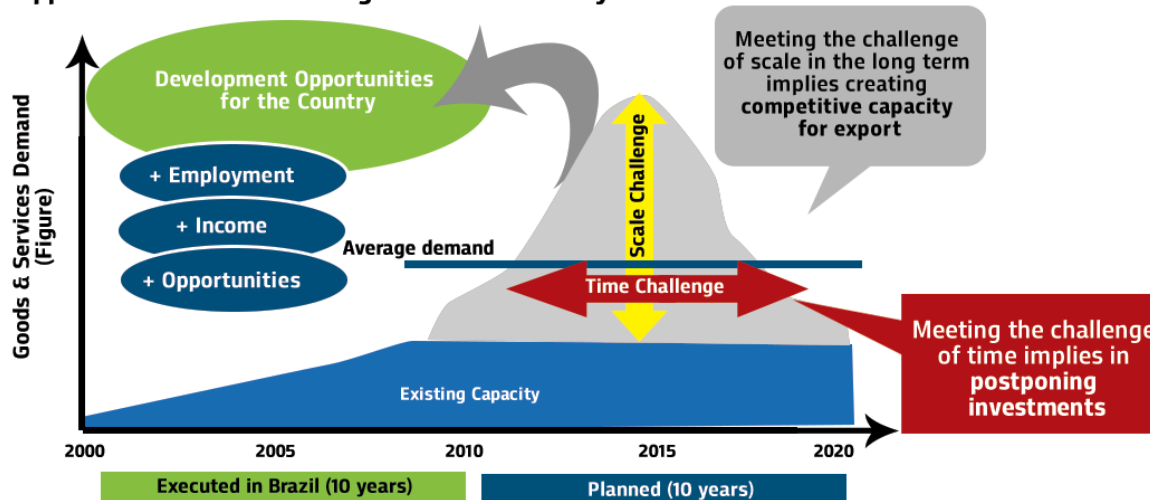
the market (free competitiveness) to increase a production capacity that could be spared in the future. To mitigate this discouraging effect, export competitiveness must be considered, pursuing to strengthen future demand and justify the expansion of capacity to win external market shares. Conclusion: The Oil & Gas sector challenge turned from "creating of a demand for the installed production capacity" into "increasing competitiveness and production capacity for export", as demonstrated in the next figure, from the Prominp 8th National Meeting.

Figure 7 - Demand profile in offshore E&P chain

8th NATIONAL MEETING OF PROMIMP

Long Term Visibility – Oil&Gas Sector

Opportunities and challenges for the country



Source: Prominp, Petrobras

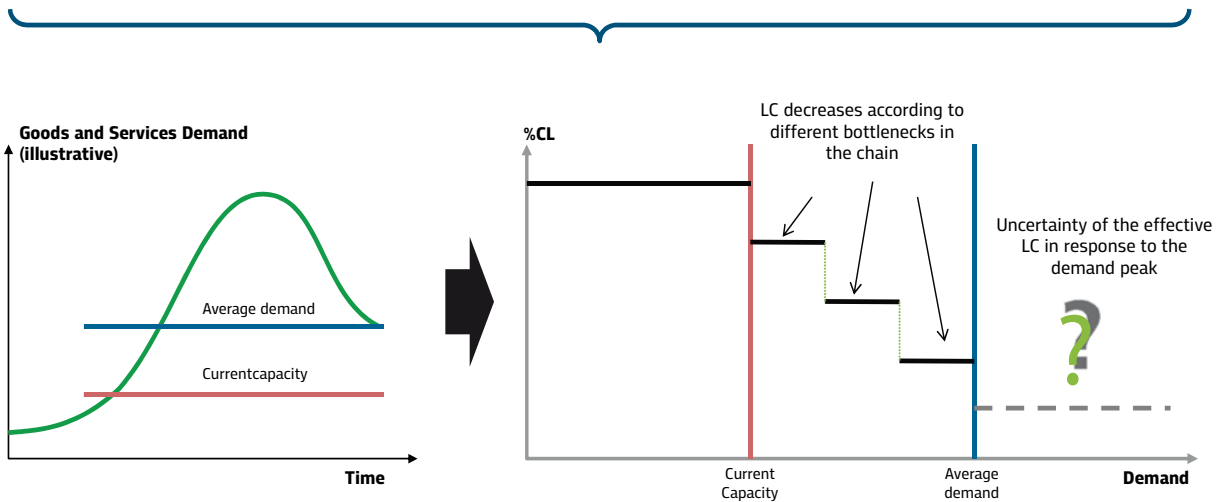
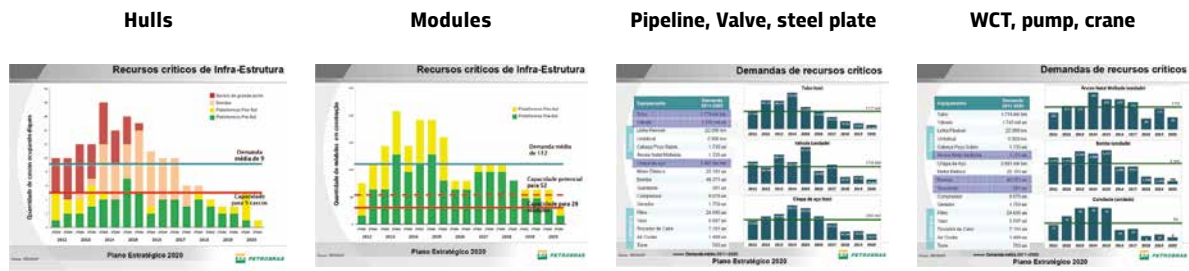
The lack of a competitiveness strategy that aims at the international market involves the risk of watching the industrial impulses deteriorate along with the decrease of the offshore domestic demand through the decades. In practical terms, companies based in Brazil shall be able to offer their goods and services in West Africa, for example, where Korean, Chinese, American and European companies already act.

A considerable paradigm shift to a country used to

measure competitiveness by import parity (when local companies start to lose domestic market share to foreign companies). At the same time, it is a hard task in face of an average national GDP per capita positioned between countries with low production costs and developed countries with high technology expertise.

Prominp also indicates the existence of supply bottlenecks in almost all critical equipments areas, as presented in the next table.

Figure 8 - Supply bottlenecks in offshore E&P chain



Source: Prominp, Petrobras

It is essential not to lose focus that multiple bottlenecks lead to difficulties in estimating the effective Local Content available for all operators. Many projects being run at the same time are inclined to face an ever busier supply chain. Naturally, due to saturation LC gradually fades.

Therefore, when demand drifts away from the installed capacity towards the peak, several obstacles in the

chain make LC levels decrease. All operators might face a "queue" effect - the first ones to arrive at suppliers get the maximum LC; the next ones receive less and so on, since the chain's installed capacity continues to be taken. It is important to highlight that the current rules provide a relief option for projects in the end of this line, a Waiver of the obligation, however still pending regulation.

PRIORITY SECTORS DEFINITION

Facing these facts, an alternative that emerges is to focus on the development of selected segments. After all, it would be extremely hard to elevate the capacity of the Oil & Gas supply chain in some many aspects at the same time and within an export competitiveness agenda due the current development stage and requirements for entering the international market, considering the size of

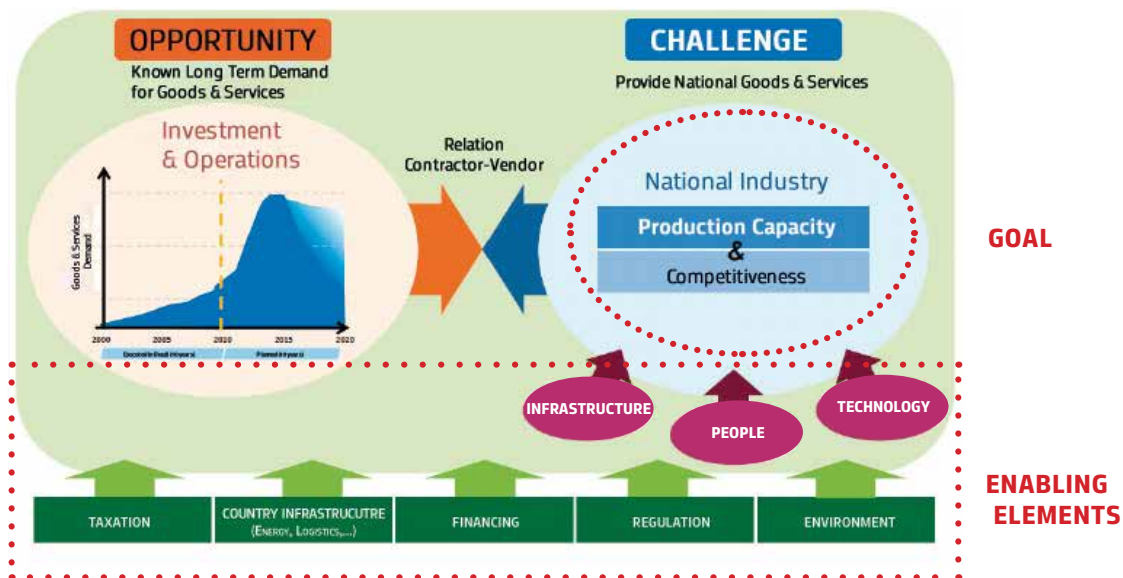
the incentives necessary to leverage this outlook in Brazil.

This great challenge justifies a new development in the Oil & Gas sector policies framework. The goal would be to generate more export competitive production capacity, working elements such as technology, labor qualification, infrastructure, tax and financing. This dynamic is presented next.

Figure 9 - Present challenge for development of offshore E&P chain

8th NATIONAL MEETING OF PROMIMP

Long Term Visibility – Oil&Gas Sector



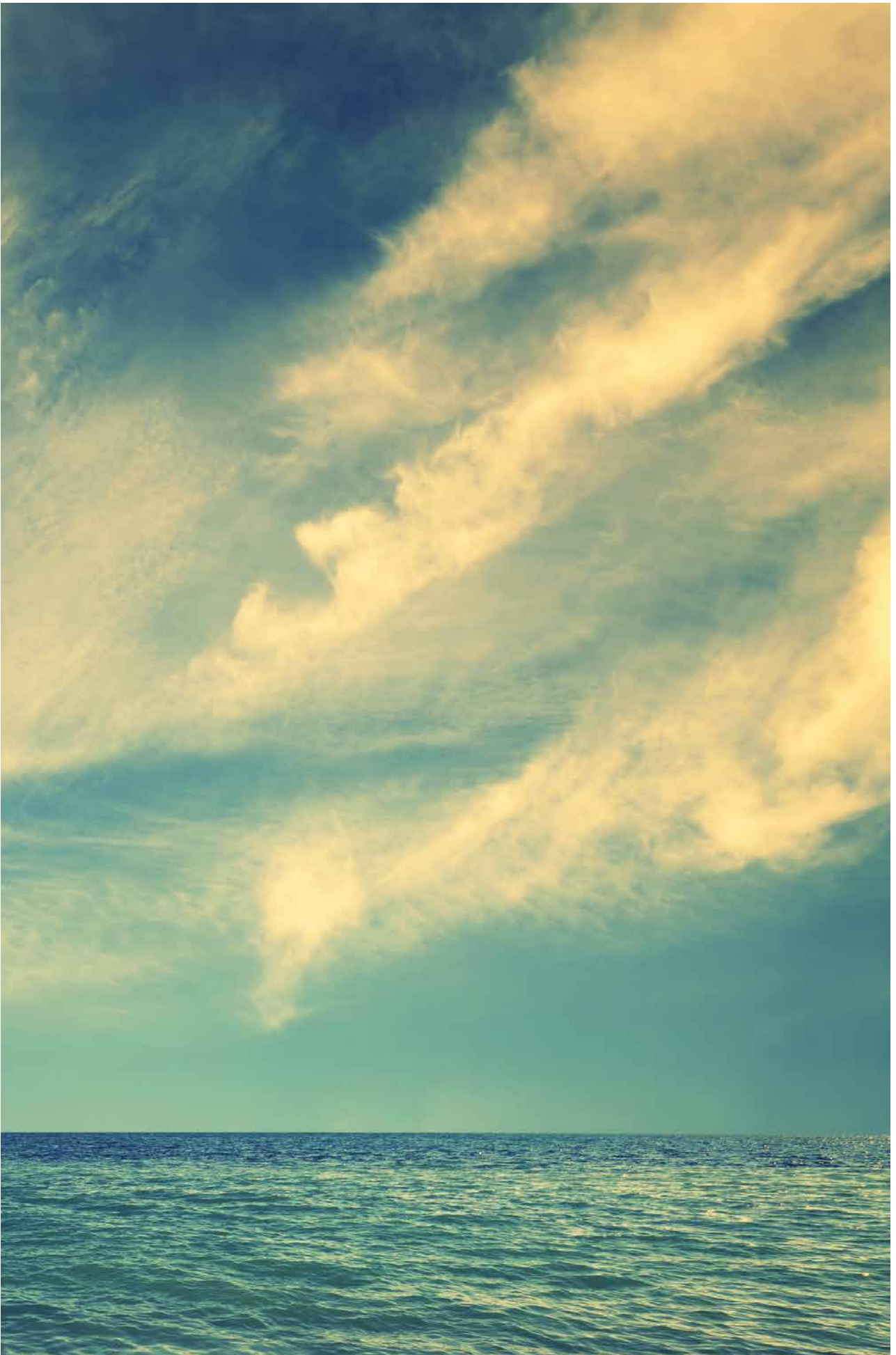
Source: Prominp, Petrobras

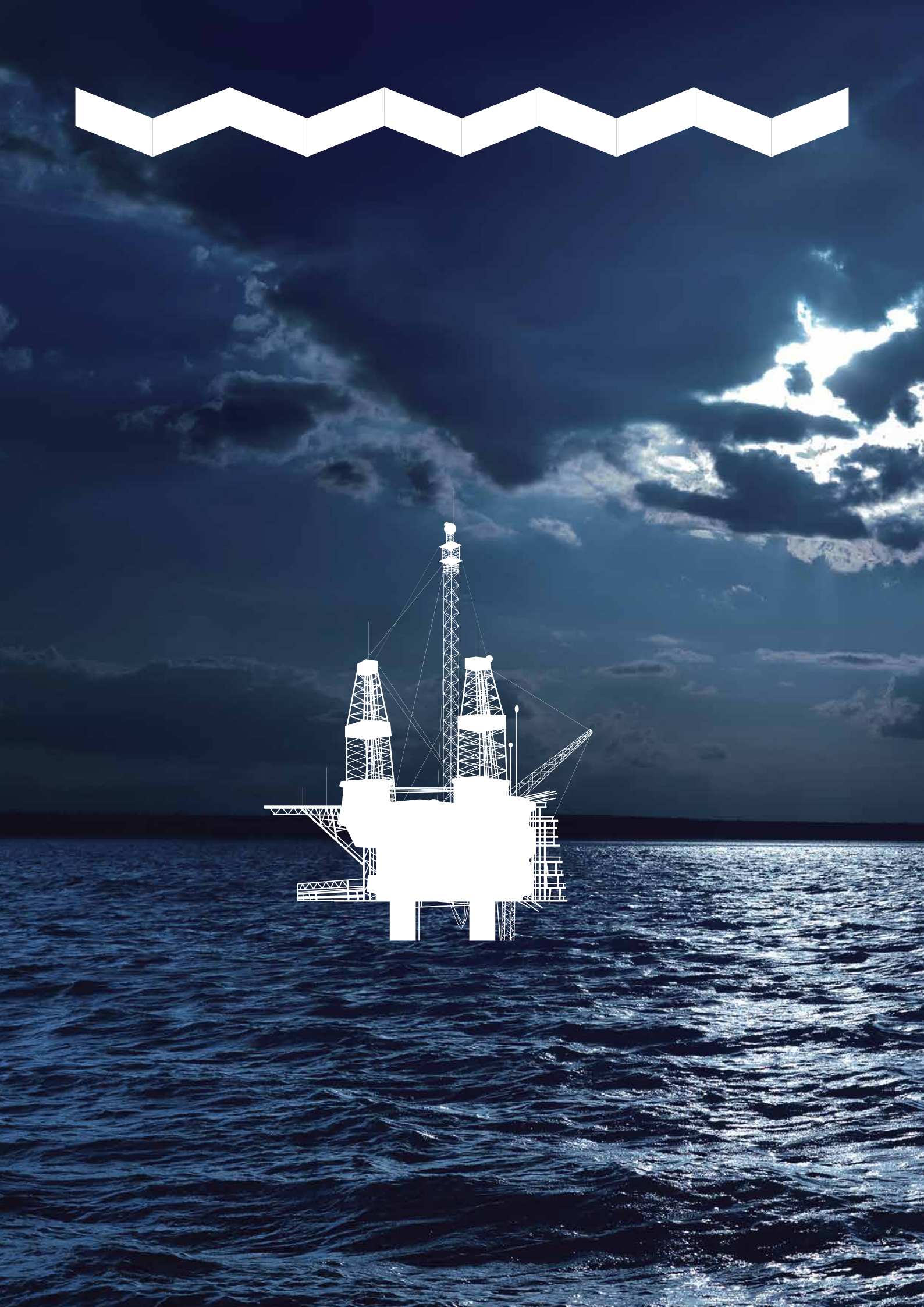
Due to this perspective, the point that stands out is how to extract the most value and benefits of these opportunities for the nation, facing up the capacity and competitiveness challenges for the offshore goods and services supply chain.

The strength that comes from the success achieved by the current model of enabling and LC policies

must converge to benefit the chain itself, by means of intelligently defining priority segments and the development of adopted parameters. The contributions listed in the next chapters follow this sense. Chasing a wider analysis as possible, the whole value chain will be examined, as well as all the opportunities related to it.







CHAPTER 2

DEFINITION OF
SOCIOECONOMIC
GOALS






Considering the current scenario of the Oil & Gas sector in Brazil and the outlook presented by the pre-salt, IBP identified the opportunity to offer its contribution in response to the challenges presented in the previous chapter. Therefore, the foundations of this study were structured to assist:

- › **Defining priority sectors which LC might critically impact Brazil's socioeconomic development; and**
- › **Defining complementary measures to the existing policies in order to achieve the development targets in competitiveness and production capacity.**

The first step was gathering the expectations from different stakeholders regarding the desired socioeconomic contribution for the offshore supply chain. For this purpose, a research was carried out focusing on the perceptions of these stakeholders on what the oil & gas supply chain should deliver to Brazil, in medium and long terms.

75 interviews were performed, lasting 1 to 3 hours each, with representatives throughout the sectors and all the stakeholders. The interviewees, divided in six different groups, represented the points of view from the main companies and institutions, namely:

- 
- › GOVERNMENT BODIES FROM THE FEDERAL AND STATES EXECUTIVE;
 - › OIL AND GAS OPERATORS;
 - › TRADE ASSOCIATIONS FROM SUPPLY CHAIN SEGMENTS;
 - › MULTINATIONAL SUPPLIERS;
 - › LOCAL SUPPLIERS;
 - › CERTIFICATION COMPANIES.

The results have shown that there are much more conversions than diversions regarding the expected socioeconomic contribution. Every stakeholder, from suppliers and operators to government representatives, stated that, in a way or another, expect to see growth in **GDP, investments and the effective creation of skilled jobs**, among other aspects that will be addressed in this study.

It also showed that there is a clear aspiration by the majority of suppliers to develop, produce and offer

their goods and services to meet as close as possible the needs of the Brazilian market. However, there have always been a great concern related to the country's competitiveness. The stakeholders mentioned issues related to the burden of the "Brazil Cost" (education and infrastructure bottlenecks, bureaucracy, complex, elevated and non-egalitarian taxes), to high costs with main production factors (energy, labor, basic raw materials, such as steel and chemicals) and to capital costs and the access to it.

The Oil & Gas supply chain expressed the desire for a long term plan by the government that lists the priorities and focal areas for a determined time period, to serve as base for planning and gradually building a more robust and competitive business system. In short: Brazil needs to generate global comparative attractiveness and offer profitable production and innovation opportunities.

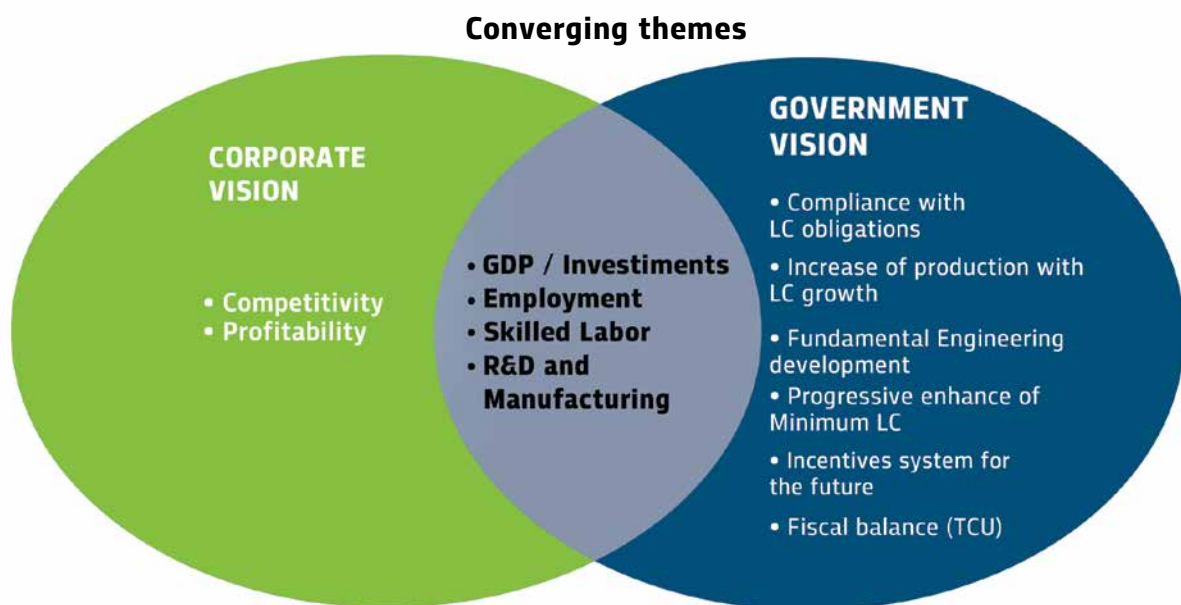
The government perspective addressed the concern regarding the maintenance of the current model's integrity, that seeks production increase associated with LC gain, highlighting that operators shall strictly comply with LC committed in the Bid Rounds regarding the hiring of goods and services from local vendors. In addition, there is the need for a development effort in engineering and definition

of incentives priority (with the balance requested by the Fiscal Responsibility Law), being able to offer compensations when impacts on budget occur.

It is also clear that LC policy must continue evolving, reflecting the progressive increase of the minimal fraction and the incentives to operators that present a good performance in this aspect. Which means that it is time for a new development in the policies related to this subject, in order to adjust them to this opportunities window in offshore E&P. After all, the importance of leveraging the local demand for industrial goods and services with high and medium technology is a consensus, boosting up the Brazilian industry.

The outcomes of the research are displayed in the next chart.

Figure 10 - Converging themes and specific views



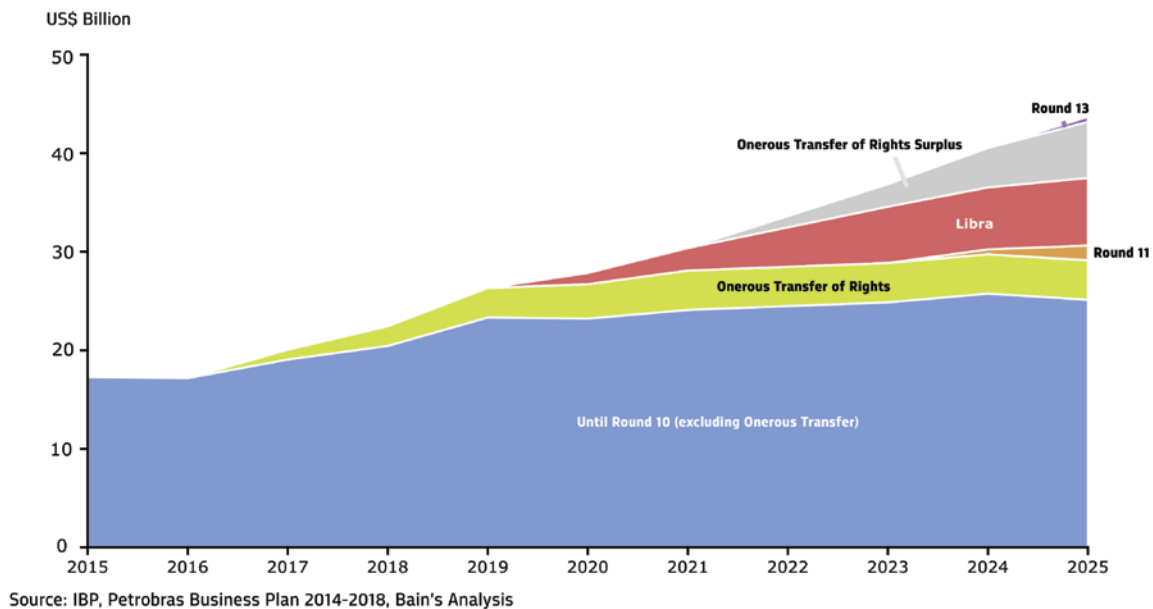
DEFINITION OF FOCUS

With this data, the study team, by means of a specific methodology, gave priority to a set of sectors where LC could better respond to the converging subjects. For the focus definition, a specific treatment was given to sectors related to production phase which the demand profile is significant attractive with regards to the development of the supply chain. For sectors related to exploration and development phases even more efforts were focused due the number and diversity of these segments. Fields decommission phases were disregarded due the low forecast of these activities in the analyzed period.

RELEVANCE OF DEMAND IN PRODUCTION PHASE

Sectors related to production, characterized by the operational costs (opex), present a more stable demand than the initial phases of exploration and development, characterized by capital investments (capex). It comes from that a specific understanding regarding this phase, which becomes even more logical the more its demand predictability is affected. After all, when production is reached, field operations last more than 25 to 30 years with continuous purchases of goods and services. Therefore, opex has the perfect growth rate for the development of suppliers. The next chart presents this fact in a scale of time extended up to 2025. Demand can only increase as long as Bid Rounds are held.

Figure 11 - Demand for services related to offshore production



Companies development experiences focusing on internationalization in the Norway (Aker) and Malaysia (Sapura Crest) reveal that LC increase started exactly in production. Logic that derives from the fact that the supplier gets to master engineering by performing maintenance. Gradually, it absorbs and develops the engineering of process and product that will enable production.







It is important to highlight that the engineering function (as already defined by ONIP in other studies), although represents a small share in terms of income and investments, is an essential enabler

of future growth in all sectors. Therefore, indeed, the importance of giving it priority and evidence in the process.

Still, the emphasis in production assumes a learning axis from an internal demand of such magnitude that it opens the way to export competitiveness. Malaysia is a country that, even though is not a great oil producer, achieved a production location very important to the value chain through partnerships between great international companies of the sector and the Malaysian oil company, creating, therefore, a friendly environment to the industrial policy.

Following this reasoning, Brazil could, and perhaps must, serve as qualification base for offshore operations in other relevant regions of the globe, such as, West Africa, Gulf of Mexico and Australia. India, China, Korea and Mexico are positioning themselves to compete internationally in these markets. Brazil's vocation is to be great and also competitive. The next figure lists the target regions for internationalization.

Figure 12 - Target Regions for Internationalization

Main offshore regions in the world:	 North Sea	 West Africa	 Australia / Asia	 USA	 Mexico	 Brazil
Offshore expenses 2011-2014 (B USD)	~200	~110	~110	~105	~50	~92
Deepwater expenses 2012-2016 (% do total)	~7% (Europe)	~30% (Africa)	~7% (Asia)	~21% (North America)		~30% (Latin America)
Regions	UK and Norway	Nigeria, Angola, ...	Australia, Indonesia, China, India	USA	Mexico	Brazil
Depth (meters)	100 - 1.100m	300 - 1.500m	250 - 900m	100 - 2.100m	100 - 2.100m	700 - 2.200m
Potential suppliers for offshore activity	Local – Consolidated technology center	Local Content development attempts	Korea & Japan + countries with low manufacturing costs, such as, China, India, Indonesia	Local – Consolidated technology center	Local – Positioning as a low cost manufacturing country	Local – Technology emerging center

Source: INTSOK – Norwegian Oil and Gas Partners 2011-2014; Infield Deepwater Market Forecast 2012-2016; Bain's analysis

Another aspect worth remarking is the existence of domestic companies from sectors related to production, with 100% national capital, that have developed themselves because of LC policies used so far and that could be stimulated to pursue an internationalization agenda. It is not just about recommending incentives because these are national companies, but to understand that this

development is fundamental for expanding the business portfolio, enhancing its sustainability.

In this sense, there are several concrete cases. In Chartering of Rig/Production Units (UPS), for example, there is Queiroz Galvão, Petroserv and Odebrecht Oil & Gas; in Maintenance Services, Engevix, UTC, Imetame; in Offshore Logistics, Bras Bunker and WilsonSons.

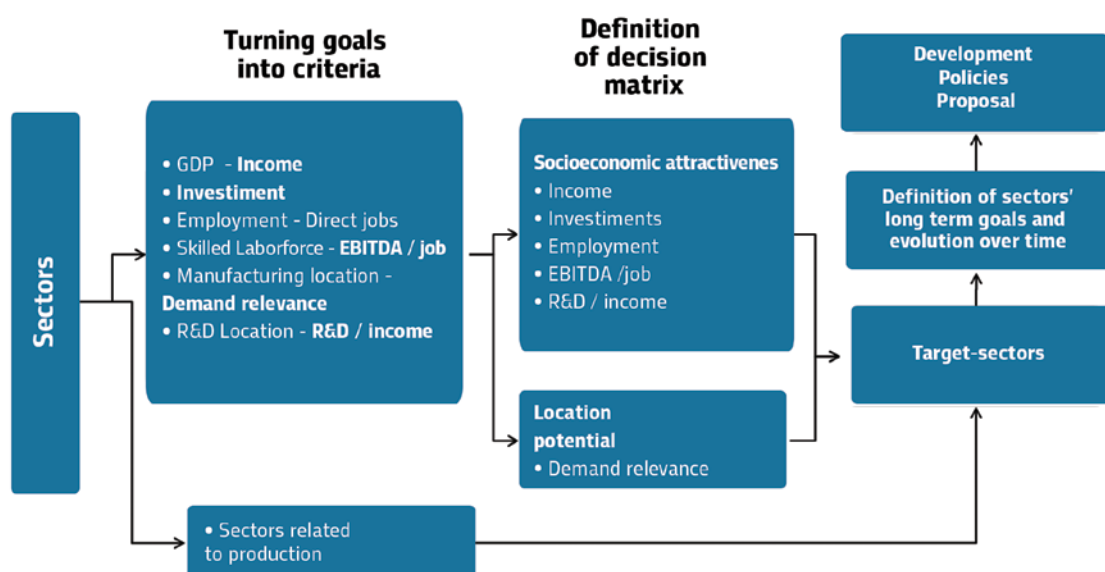
R,D&I

In the work sequence, a decision system was established, as following illustrated, so that the already identified common socioeconomic targets were translated into criteria, i. e., solid indicators that can be reproduced from sector to sector and consistently measured. With regards to GDP, income was selected.

For investments, the Oil & Gas sectors own investment level is the best to serve as indicator. With

regards to employment, the direct jobs creation was estimated. For skilled labor, a indicator was composed as a ratio of the EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) per job. For the assessment of technological intensity, it was used a ratio between Investments in R,D&I and income. The outcome is presented below:

Figure 13 - Decision system applied



Final list of criteria and calculation method for each sector was as follows:

INCOME: Approximated present value of the GDP directly generated by a sector (incomes, salary and taxes) and part of the indirect contribution (raw materials and input costs, which are the incomes of other sectors). It was estimated as an increase in the total income of the sector for the 2012-2020 period, annualized, calculated based on Petrobras' business plan, Onip's study and the data base from Prominp and IBP, with estimates in billions of dollars (US\$ billions), considering an average exchange rate of R\$ 1,80/US\$ (year base 2012).

INVESTMENT: Complementary component in the GDP formation and ex-ante indicator of future GDP growth potential. It was estimated from the ratio between investment and total income from the main companies of each sector, based on the financial statements for the 2009-2011 period and sector studies, multiplied by the increment in the total income of the sector in the 2012-2020 period, annualized.

EMPLOYMENT: Increase in working population through job creation. It was estimated from the ratio between number of employees and total income from the main companies of each sector, based on the financial statements for the 2010-2011 period, multi-

plied by the increment in the total income of the sector in the 2012-2020 period, annualized.

EBITDA/JOB POSITION: Indicator of the capacity of the new job position created to effectively leverage GDP and GDP per capita growth. It was estimated from the ratio between EBITDA and the number of employees of the main companies of each sector, based on the financial statements for the period of 2010-2011 and sector studies.

RELEVANCE OF DEMAND: The more relevant the local demand is compared with the global demand the more attractive is the manufacture location, given the same cost level of production factors. It was estimated from the sector demand for the 2012-2020 period, annualized, calculated based on Petrobras' business plan, Onip's study, the data base from Prominp and IBP and the data base from Spears & Associates, with estimates in billions of dollars (US\$ billions), considering an average exchange rate of R\$ 1,80/US\$ (base 2012).

R,D&I/INCOME: Indicator of R,D&I intensity in each sector, pointing out opportunities to intensify the generation of knowledge and competitive differentiation in Brazil from sector's demands. It was estimated from the ratio between R,D&I investments and income from the main companies of each sector, based on the financial statements for the period of 2009-2011.

As the relevance of demand is perhaps the most significant element to sectors location in Brazil - and the other criteria represents the benefit desired to be achieved such as socioeconomic development

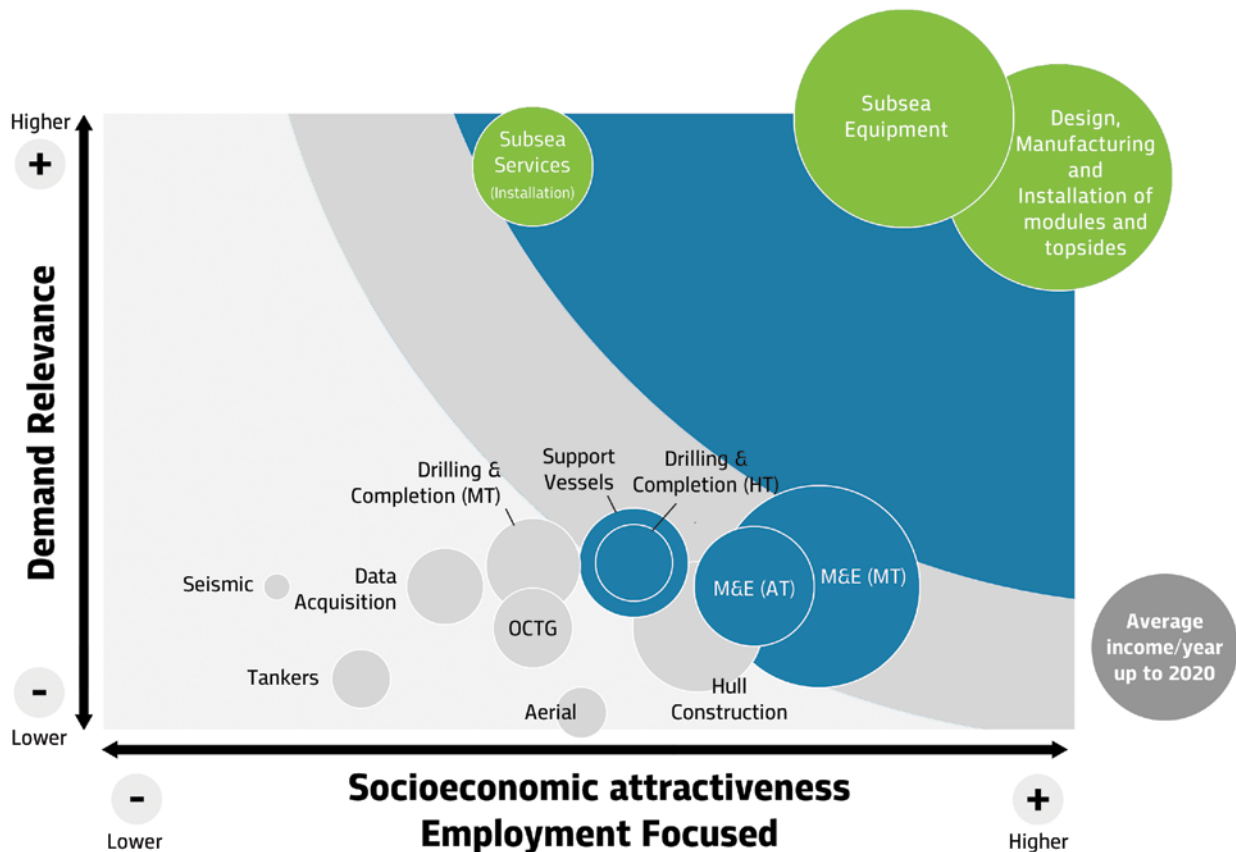
elements -, the first will be used as one of the priority axis. The multicriteria analysis composed the other axis, of socioeconomic attractiveness.

MULTICRITERIA ANALYSIS

Sectors related to capex (exploration and development phases) were given priority from an employment perspective, complemented by an analysis emphasizing technology. These two focus consist in the most frequent ways of thinking the development of the supply chain.

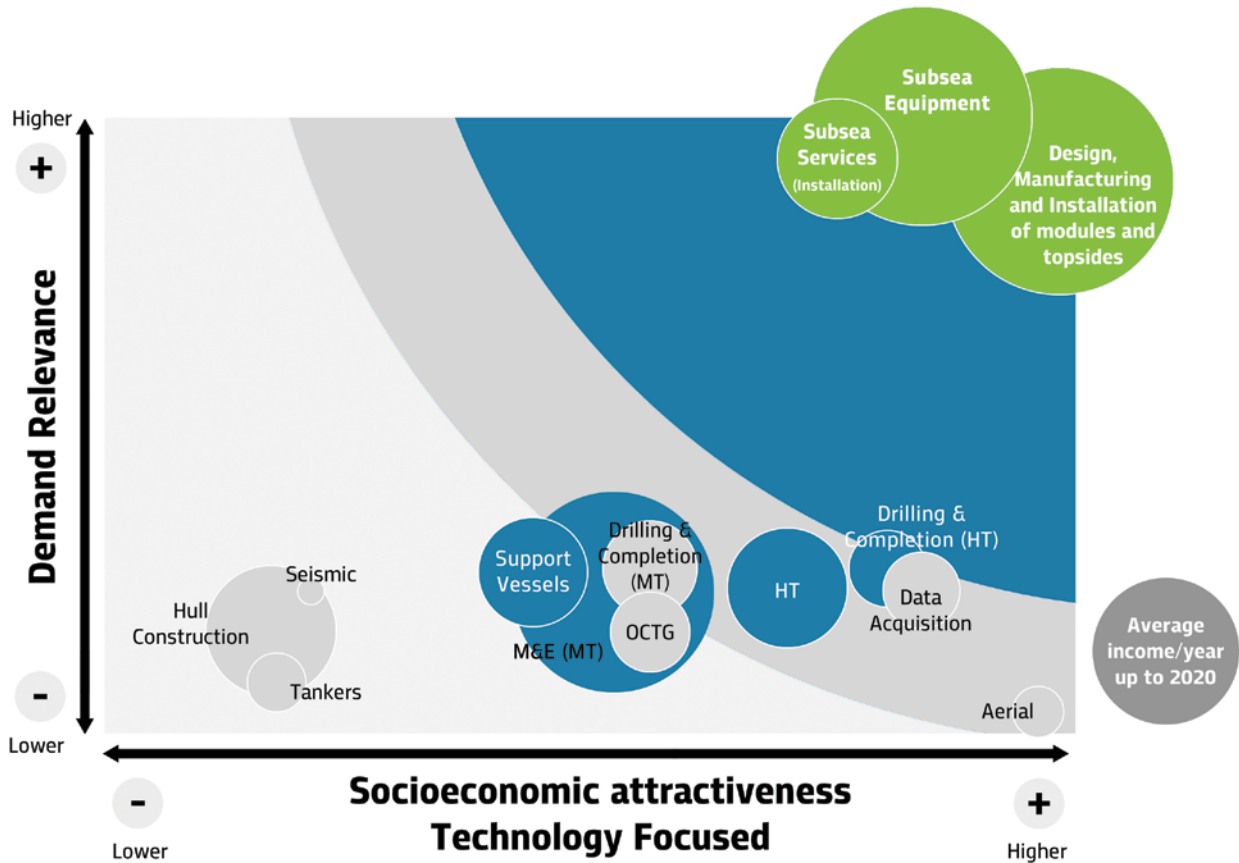
The two matrix presented next were designed for this study. They share the same vertical axis which represents the relevance of local demand in comparison with global demand. The horizontal axis was designed considering distinctively the five socioeconomic criteria - income, capex, direct jobs, EBITDA/Job and R,D&I -, with the objective of comparing results and observing convergences even with variables changes, i. e., different approaches in attempts to establish priorities.

Figure 14 - Employment focused priority matrix



* Share investments/expenses in Brazil until 2020 in the global market * - (%)

Figure 15 - Technology focused priority matrix



* Share investments/expenses in Brazil until 2020 in the global market * - (%)

To comprehend the main content of these priority definition charters, one must consider that:

- › THE MORE TO THE RIGHT A SECTOR IS THE MORE IT ENHANCES THE FIVE CRITERIA INDICATED AS RELEVANT BY THE SURVEY WITH THE STAKEHOLDERS;
- › THE UPPER THE POSITION OF A SECTOR THE MORE ATTRACTIVE ITS DEVELOPMENT WILL BE IN BRAZIL, FOR BEING THE BRAZILIAN DEMAND SIGNIFICANT COMPARED WITH INTERNATIONAL DEMAND;
- › AND THE BIGGER THE CIRCLE THAT REPRESENTS THE SECTOR THE GREATER ITS CAPACITY TO GENERATE BENEFITS FOR THE COUNTRY, AS A CONSEQUENCE OF ITS BUSINESS SIZE.

The combination of these analysis lead to the conclusion that sectors located in the upper right quadrant are the ones that best respond to the socioeconomic targets, i. e., to the expectations of the Oil & Gas supply chain stakeholders. Summing up the two visions, three sectors converged, i.e., stood out as perfect candidates, regardless of the analy-

zed focus:

- **Project design, manufacturing and integration of modules and topsides;**
- **Subsea Equipment; and**
- **Subsea installation services.**

Then, they were defined as Priority Sectors Level 1 and are directly related to offshore exploration and development of production activities. Considering the projects from the pre-salt and the post-salt, Brazil ought to become one of the biggest players in offshore E&P and, therefore, this segments are relevant not only here but also at global level. In other words, to focus on employment and added value employment (EBITDA/job) which are clearly the segments that can most add value to the country.

Still, a second level of sectors that stand out in this combined analysis of employment and technology must be considered:

- High technology drilling and completion;
- Medium technology machinery and equipment;
- High technology machinery and equipment;
- Supply vessels (SV) building

In this study, they are defined as Level 2 Priority Sectors.

10 SECTORS IN EVIDENCE

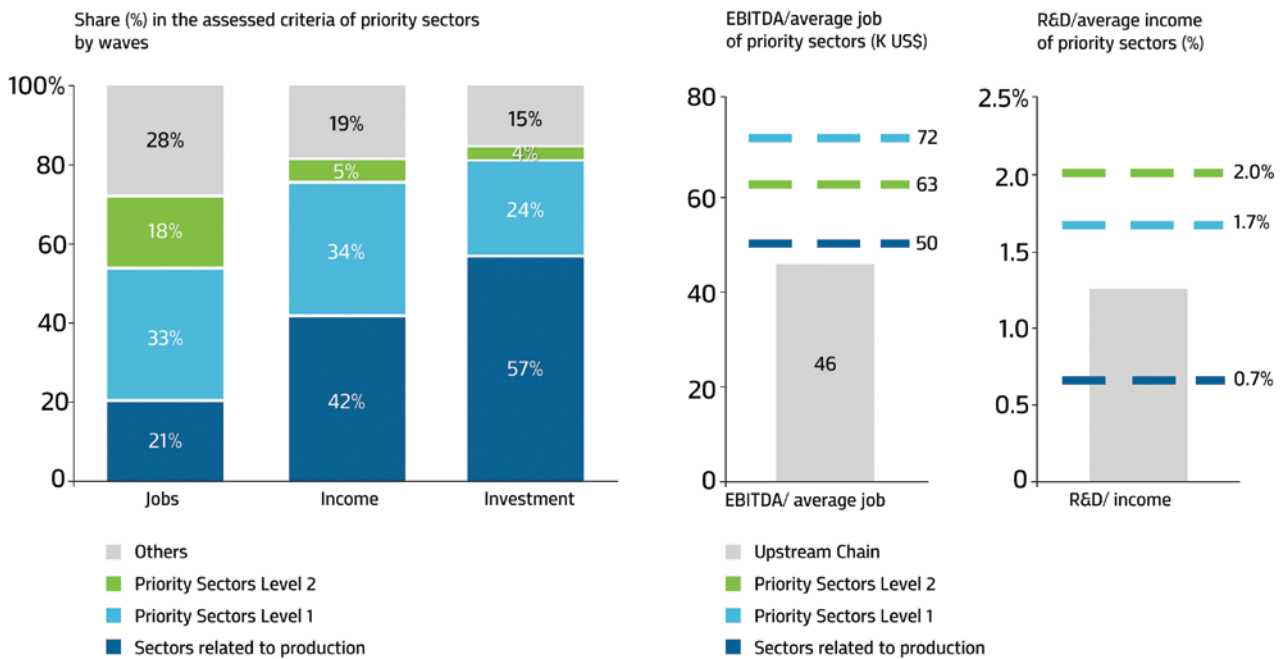
Adding the opex demand relevance analysis (which provided three sectors in evidence) to the capex multicriteria analysis (with seven other sectors generated), the whole offshore supply chain is covered - from exploration to development and production). Based on this, the 10 sectors in evidence in this study, listed below, were decided.

Figure 16 - Priority sectors



In light of a wider business perspective, these ten sectors are recommended as focal points for a new development step in the Brazilian Oil & Gas supply chain. The next figure shows that priority segments deliver alone 72% of the jobs, more than 80% of the income and 85% of total investment. The average value by employee, for example, is way above the average of the sector (EBITDA/Job). Meanwhile, they leverage the investments in R,D&I.

Figure 17 - Socioeconomic contribution of priority sectors



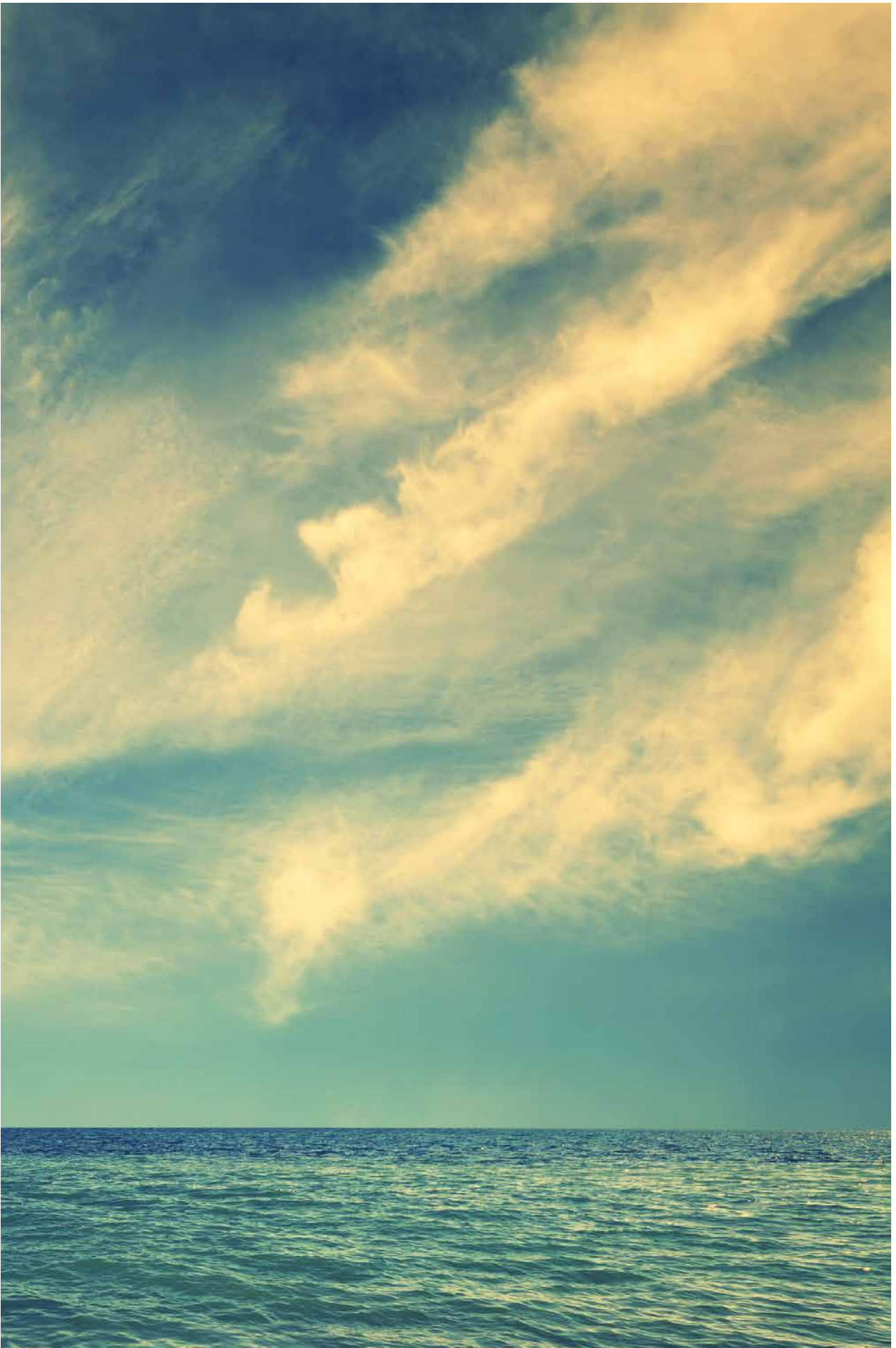
With regards to Figure 17, chart's three colored columns on the left reveal that, even by selecting production and level 1 sectors, i.e., only six sectors, more than half of the jobs and almost 80% of income and investment would be contemplated.

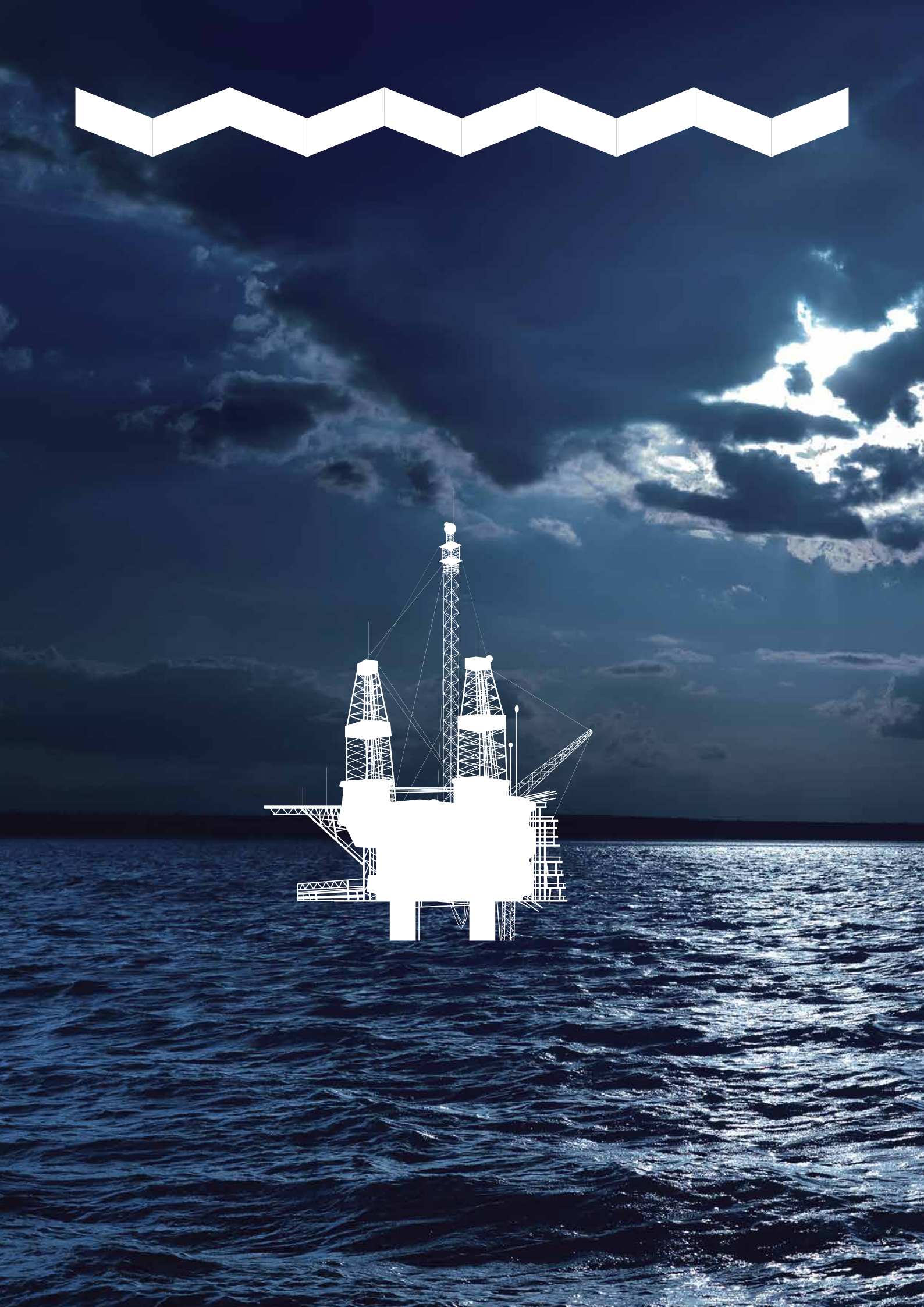
The two charts on the right compare the labor quality that would be generated by the priority sectors with today's average labor quality in the upstream chain. As the lines are above the gray bar, these parameter is considered high. Something similar

occurs to the R,D&I level in the priority sectors: Level 1 and 2 sectors increase the figures, although production stays a bit low, as expected.

Hence, focusing in this ten priority sectors indicates return in investments, job creation with skilled labor and expansion in expertise for the country. It is worth to highlight that other opportunities are not to be neglected, particularly because, by business dynamics, they will be dragged into development as well.







CHAPTER 3

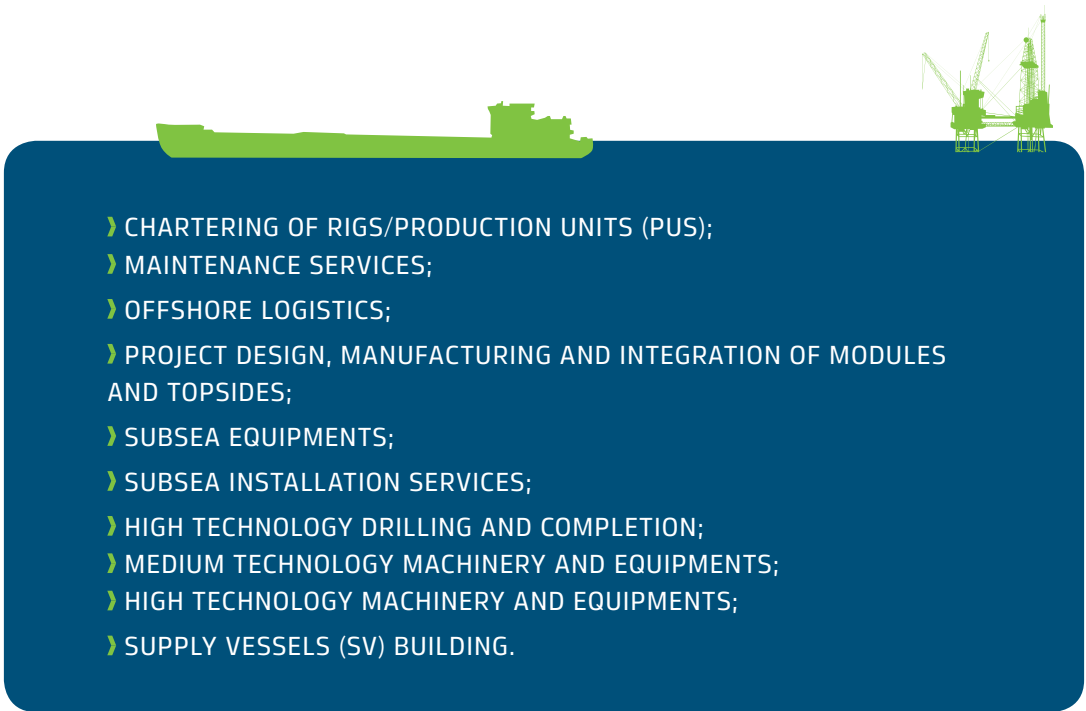
DEFINITION
OF SECTORS'
ASPIRATIONS





So far, this study presented the converging themes extracted from 75 interviews with stakeholders of the Oil & Gas sector. A set of criteria were established to identify investment priority sectors in the offshore supply chain that could best meet the stakeholders'

expectations on growth and business development in Brazil. The demand relevance analysis in opex pointed out to three sectors, while the multicriteria analysis of capex indicated other seven. Thereby, ten strategic sectors were listed:

- 
- › CHARTERING OF RIGS/PRODUCTION UNITS (PUS);
 - › MAINTENANCE SERVICES;
 - › OFFSHORE LOGISTICS;
 - › PROJECT DESIGN, MANUFACTURING AND INTEGRATION OF MODULES AND TOPSIDES;
 - › SUBSEA EQUIPMENTS;
 - › SUBSEA INSTALLATION SERVICES;
 - › HIGH TECHNOLOGY DRILLING AND COMPLETION;
 - › MEDIUM TECHNOLOGY MACHINERY AND EQUIPMENTS;
 - › HIGH TECHNOLOGY MACHINERY AND EQUIPMENTS;
 - › SUPPLY VESSELS (SV) BUILDING.

A look at the global references in the priority sectors show a combination in the supply of these goods and services that allows the reunion of business in five groups. For global reference players usually gather two or three associated segments, as presented in the next figure.

Figure 18 - Sectors Groups



Regarding the clustering in groups for the current Brazilian landscape, the reality observed is:

GROUP 1

- **Chartering of rigs/Production Units:** presence of global leaders and, with less relevance, national companies;
- **Project design, manufacturing and integration of modules and topsides;** Local EPC companies for manufacturing integration modules, investing to expand capacity, but with little knowledge on basic engineering;
- **Maintenance services:** led by national companies, but with a gap in providing services with more added value, like assets inspection, integrity and maintenance (AIM - Asset Integrity Management).

GROUP 2

- **Subsea equipments:** presence of the sector's global leaders, investing in local manufacturing and R,D&I;
- **Subsea installation services:** presence of the sector's global leaders, with local operations bases;
- **Building of support vessel for subsea installation support (SVSIs):** still underdeveloped in Brazil, with few units available or ordered.

GROUP 3

- **High technology drilling and completion:** market dominated by the sector's global leaders, providing only services (there are no significant local high technology manufacturing) Some national players act as suppliers of low technology manufacturing and service.

GROUP 4

- **High and Medium technology Machinery and equipments:** market dominated by sector's global leaders (global income of more than US\$ 20billion per year). National companies generally small, compared to global leaders, essentially domestic market oriented and with low levels of R,D&I investments.

GROUP 5

- **Offshore Logistics:** extremely fragmented marine support market, divided between national and foreign companies. Significant gap in the supply of officers and crew for different vessels.
- **Support Vessels Building (PSV, AHTS, OSRV):** shipyards in group 5 with national presence, global scale and expanding investments. Lack of naval engineering mastering.

Taking into account the window of opportunities for the offshore industry in Brazil, as well as the continuity of government's enabling policies with increase in LC, it is possible to design an aspirations framework for the supply chain that promotes the country to global level of competitiveness in the next 15 years.

This scenario building exercise was based on long term goals, focusing on global competitiveness. Groups 1 and 2 demonstrated distinguished potential due to the combination of stability and demand relevance, as well as the base of companies already installed in Brazil that can leveraged. The outlines of the designed situation are as follows.

GROUP 1

- Three major global players established in Brazil, with dense supply chain; integration and export base installed in the country, serving as center of excellence to other relevant offshore markets;
- From three to five national companies responsible for more than 50% of the national market and one or two Brazilian companies among the global leaders, operating in all offshore hotspots, with a wide portfolio of services.

GROUP 2

- The three biggest global companies of subsea installation services and equipments operating with a dense supply chain in the country, serving as integration and export base and excellence center to other relevant offshore markets;
- One to two Brazilian companies among the global leaders in subsea equipments;
- One to two national shipyards among global leaders, building SVSIs for the main global players.

GROUP 3

- One to three global players with a dense supply chain in Brazil, serving as export base and excellence center to other relevant offshore markets;
- A Brazilian company with solid presence in the country, acting as excellence center and export base.

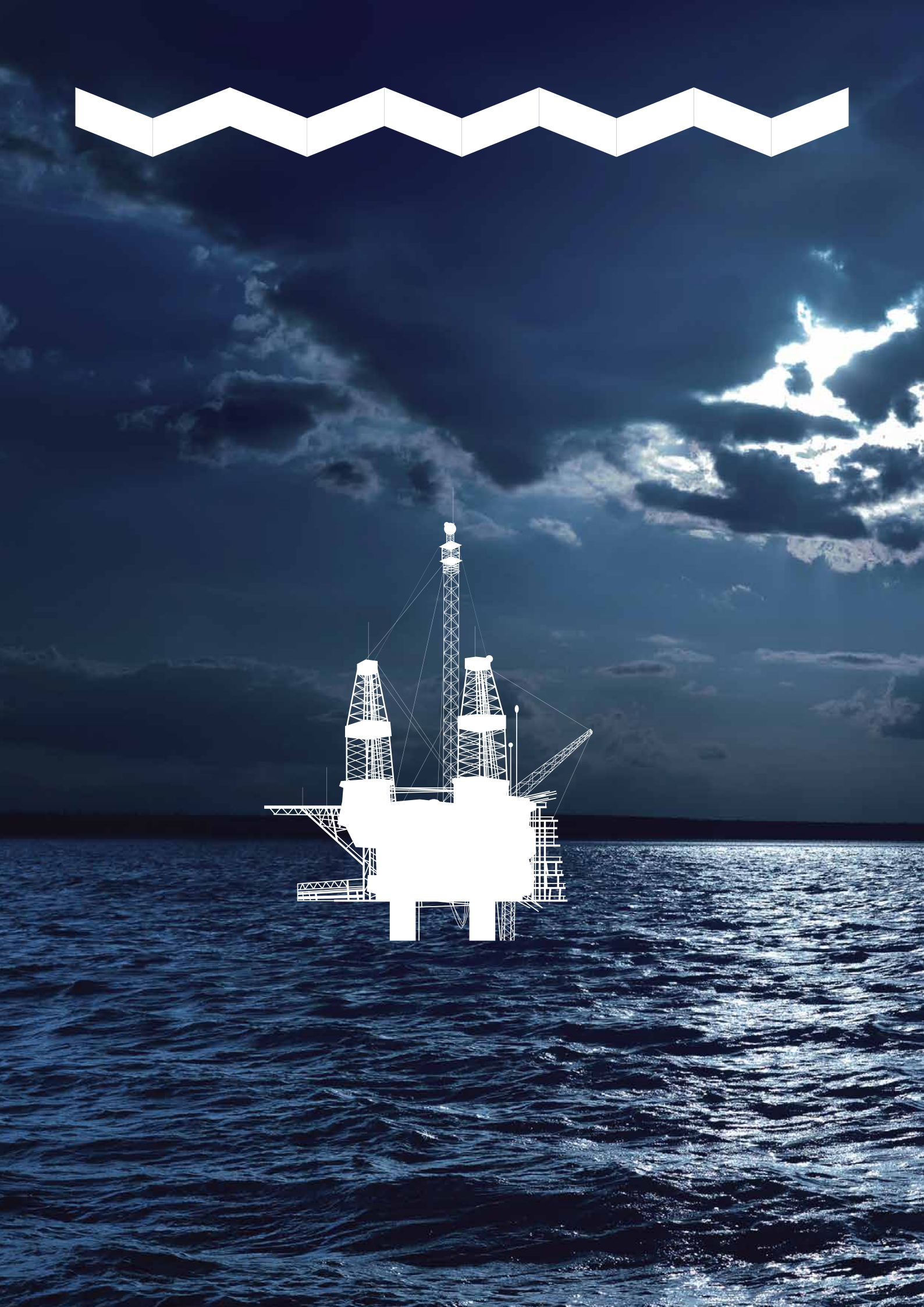
GROUP 4

- Five to ten global leaders installed with a dense supply chain in the country, serving as export base and excellence center to Americas, Europe, Middle-East and Africa;
- Two to five national companies operating in global scale;

GROUP 5

- Two to three Brazilian companies among global leaders in offshore support vessels;
- Two to three national shipyards among global leaders, building the entire range of Support Vessels (PSV, AHTS, OSRV).

Reaching this level is in the Brazilian government's plans, that has led to Bid Rounds of blocks with rules to stimulate the potential of production and LC growth. In the next chapters, this study will identify the elements that might maximize the results of the industrial policy, in order to create in Brazil a internationally competitive industry.



CHAPTER 4

FOUR COMPLEMENTS FOR ENABLING POLICIES





Having established five business groups as priority, the team that developed this study closely examined renowned analysis of the sector - performed by Prominp, Onip, etc -, as well as the set of actions presented in the Greater Brazil Program (Programa Brasil Maior). The approach was direct, aiming at identifying and present-

ing the ways for maximizing the opportunities.

The present document suggests that some policies should be set as priority, seeking to accelerate the industrialization process of local suppliers that belong to the selected sectors, aligned with government's industrial policy strategy.

CONTRIBUTIONS FOR THE FUTURE

The enabling policies were divided in four blocks, as presented next. These contributions are important for the development of a competitive industry, focused in export/internationalization. However, these incentives must be applied temporarily, indicating an expiration time and gradual reduction, along with indicators that measure the achievements of established targets.

Figure 19 - Complements to the current enabling policies

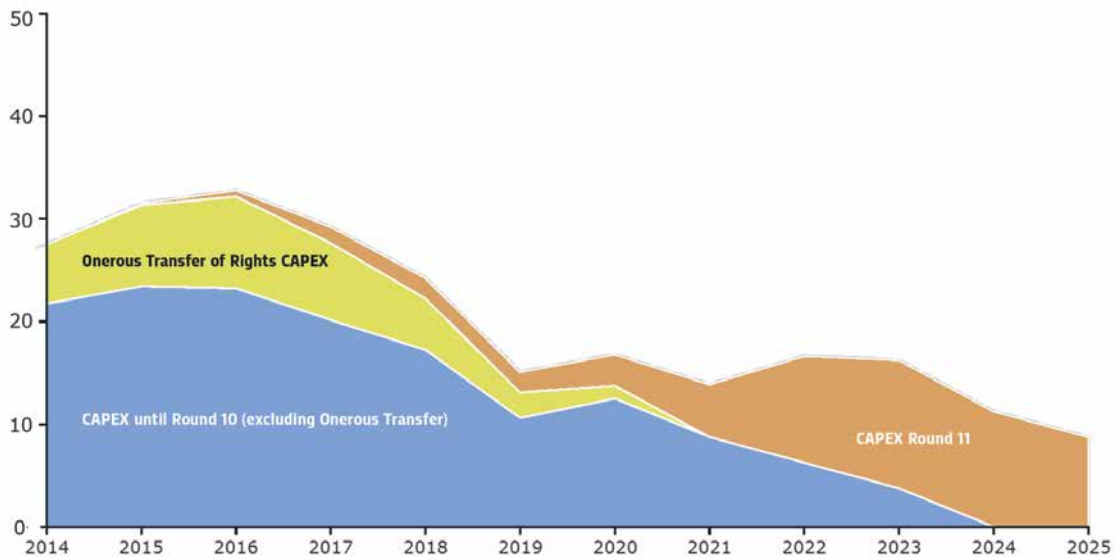


A) SUSTAINING BRAZILIAN DEMAND BEFORE GLOBAL DEMAND

A vital concern of the Oil & Gas sector and, therefore, of the supply chain is the sustainability of the country's domestic demand. This issue was reinforced by the lack of Offshore Blocks Bid Rounds from 2007 to 2013. The next chart shows that even with the resume of

the tender process, with Bid Round 11, the long period between the tenders would cause a reduction in goods and services demand to levels inferior to Bid Round 10's peak. This would mainly affect the supply chain related to development of production, which would go through a peak of demand, naturally associated to a peak in Local Content requirements.

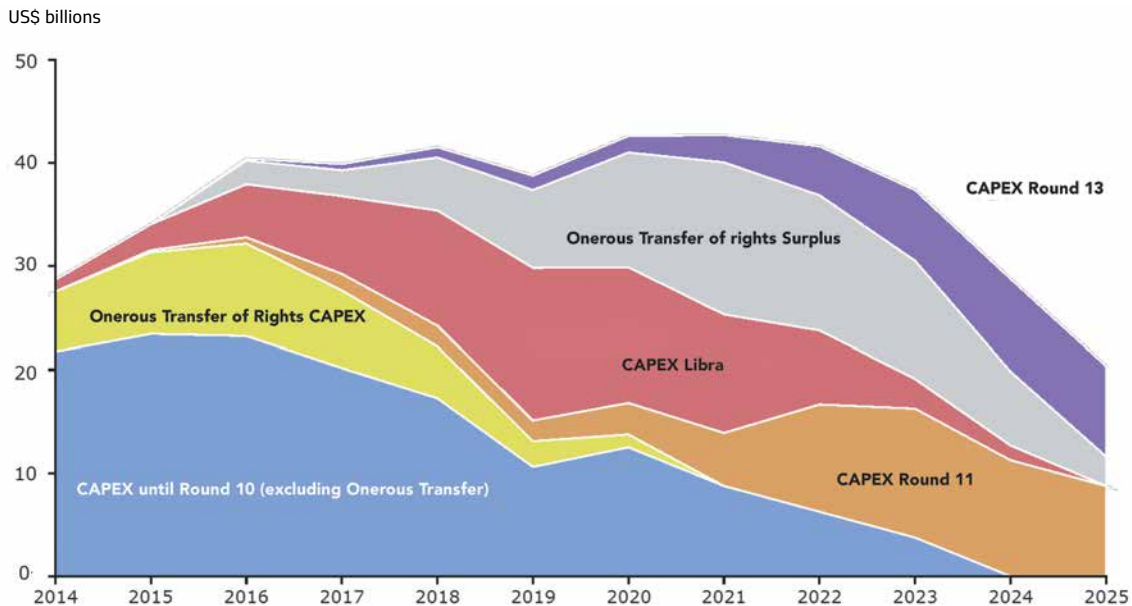
Figure 20 - Goods and services demand in offshore exploration & development (up to Round 11)



Source: IBP, Petrobras Business Plan 2014-2018, Bain's Analysis

Round 11 expected impacts, when added to the effects of Libra, Surplus from Onerous Transfer of Rights and next Bid Round, clearly shows the importance of adding these latter in order to maintain the level of activity in the Oil & Gas chain. In such case, the outlook moved from a scenario in which total future demand was reduced in half to a new scenario where demand was higher and clearly stable. This new reality brought by recent Bid Rounds guarantee a demand more stable and easier to estimate, desired conditions to attract long term production investments in the whole Oil & Gas chain.

Figure 21 - Goods and services demand in offshore exploration & development (Including Libra, Surplus from Onerous Transfer of Rights and Bid Round 13)



Source: IBP, Petrobras Business Plan 2014-2018, Bain's Analysis

Therefore, the necessity of a minimal frequency in bid rounds is key to turn business sustainable, stably providing opportunities by a regular number of projects throughout the years. This situation does not diminish the need for the Brazilian supply market to seek for international opportunities, for the Brazilian industry needs to be prepared for competing in other markets.

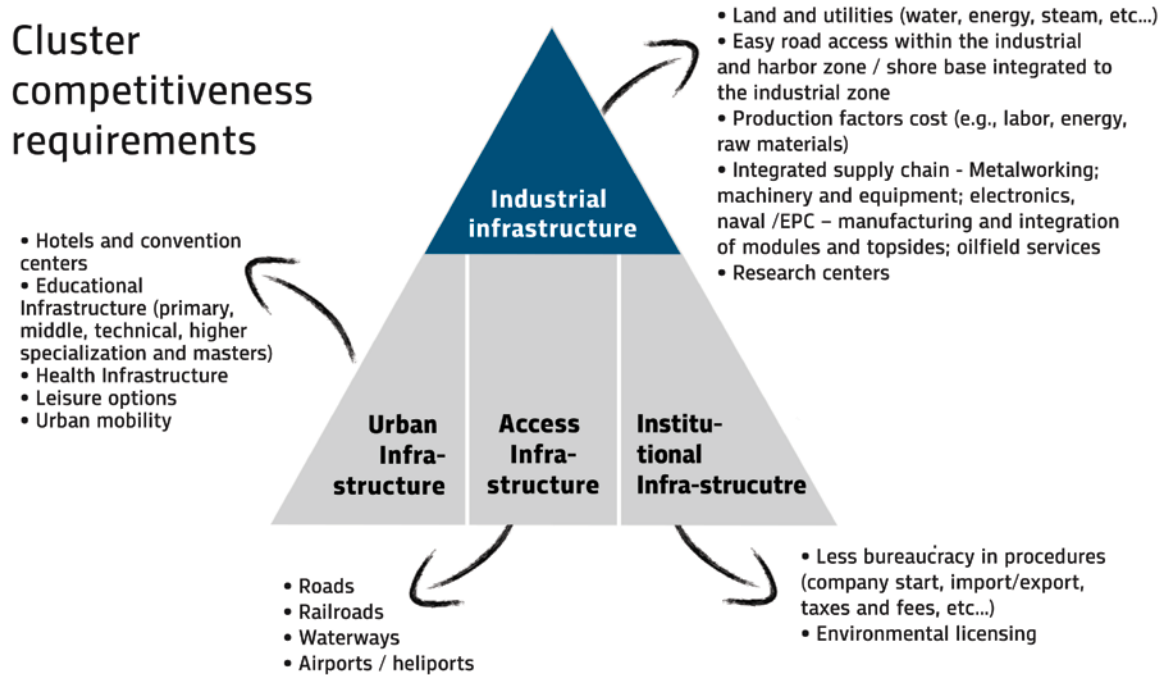
With distinguished attractiveness, the manufacturing and the innovation tend to happen not only due to LC, but for the vendor can plan to create an internationalization or export base from Brazil. If demand - encouraged by the LC policy - is associated with macroeconomic conditions for the installation of facilities in the country able to compete internationally, the players shall look to

this window of opportunities from a positive and truly stimulating perspective..

B) FORMATION OF CLUSTERS AS GENERAL COMPETITIVENESS ELEMENT

The scenario for investment can become even more interesting if occurs within a production cluster. A cluster is not only a reunion of a group of companies, as may look at first sight, but rather a concept that combines industrial, access, institutional and urban infrastructure focusing on productivity and competitiveness. A focused and highly efficient arrangement with significant synergy gains in several stages of production.

Figure 22 - A Cluster structure



In Brazil, it would be important that clusters worked as providers of competitive isonomy among competitors in offshore Oil & Gas global supply chain. Government could competitively promote the access infrastructure (roads, railroads, airports, harbor), eliminate the so called "Brazil Cost" to companies (compensating differentials in the supply of skilled labor, capital costs, production factors, interface with external market and tax) and planning urban infrastructure (residential areas, hotels, schools, universities) and social (hospital, parks, recreation areas). The attractiveness would have to be provided so that companies could install their facilities, but also for workers and their families to locally benefit from the strength of the clusters.

In Brazil, the most similar location to an exportation competitive cluster is the São José dos Campos municipality, where Embraer is installed. Besides the industry, there can be found the Air Force Technology Institute (ITA), which train skilled

workforce. Embraer enjoys several tax incentives and streamlining of interface with the international market. The region has good health, transport and education conditions. However, São José dos Campos lack of several additional elements for the real constitution of a cluster - regarding to a dense local supply chain, urban planning, transport infrastructure, among other -, that are listed below.

The cluster's area of influence, in Brazil, should not be located close to metropolitan regions. Ideally, new centers for spreading out quality of life should be created. The installation could take place only after the approval a long term urban development plan.

A virtuous example of this experience is in South Korea, perhaps the best reference to Brazil, with a scale similar to the one that would be necessary here. The South-Korean clusters are especially successful in the steel-intensive chains, relevant to this study. In addition, they generate competitiveness measured in export parity.

The South-Korean cluster of Gwangyang occupies an area of more than 85km² in the southern shore of the country. Its 33 mooring berths are crucial to support the building and assembling of vessels, as well as for the import and export of goods. There, a steel mill is installed

with processing capacity of 18million tons of steel - almost half of the total Brazilian capacity. Furthermore, it houses 180 companies of petrochemical, equipment and machinery industries. Main characteristics are highlighted in the figure below.

Figure 23 - Especial Economic Zone of Gwangyang in South Korean



Gwangyang is a free economic zone (tax free area). For this reason, its production reaches Europe and the Middle East, 20-30% cheaper, a difference that reaches 40-50% compared with the Brazilian local market.

From that derives the idea that Brazil follows this trend for the offshore supply chain organization. A cluster offers more competitive conditions to companies, promoting them for export. The Gwangyang basic infrastructure cost around US\$ 12billion to be installed. Considering the forecast that the Oil & Gas sector should generate a tax revenue of

more than US\$ 50 billion per year in 2020, it is feasible to consider the structuring of a cluster similar to the Korean in national territory.

Furthermore, the Brazilian clusters should house companies of high added value, among the ten segments selected in this study, which lead to five business groups listed in chapter 3. They are also aligned with the purpose of the Local Productive Arrangements (Apls), in the agenda of Greater Brazil Plan (Plano Brasil Maior). Suggested details to the clusters also can be integrated in the Apls discussions.

C) MASTERING OF ENGINEERING FUNCTION

All investments in the offshore E&P chain start in engineering. Engineering enables knowledge assimilation and application and the innovation possibility. To master engineering does not mean to be able to understand an imported product design. The components of something created by an international supplier usually indicate the necessity of also seeking abroad the capability for manufacturing them.

A national project derives from local engineering knowledge. After all, a project developer must use industry's available capacity and material accessible in market close to production. From a design created in country, the capacity to develop a local industry is expanded, with significantly higher probability of success.

It seems logical, therefore, that the Oil & Gas supply chain can form a framework that results in effective development of the engineering function, not only through service engineering companies, but also among contractors. And covering basic and detailing engineering, more related to the naval industry, in addition to product and process engineering, more related to machinery and equipment industry.

It is not only a matter of having engineering companies in Brazil. Training lots of engineers is fundamental for a complete R,D&I chain. Seems interesting, for example, to pursue the 100% LC goal for a determined period of time in naval sector's basic and detailing engineering. The same logic could be applied for product engineering and for the complete production process in subsea equipment, drilling and completion, machinery and industrial equipment industries. Finally,

all priority sectors would need specialized and skilled labor able to perform with high expertise.

A lot can be done to enable this quality breakthrough. Starting from the reduction of taxes, contributions and fees related to the engineering staff in any kind of company. A study from ONIP already demonstrated that Brazilian engineering, given the current legislation, can cost 100% more than Europe's. Prominp also has a workgroup focused in national engineering that reached similar conclusions.

It is possible to stimulate enabling investments to be performed by operators, to offer support for expansion or provision of engineering courses, as well as training abroad; open space for technological innovation and development in the supply chain, as defined by the Program of Support to the Development of the Goods and Services Supply Chain of the Oil & Gas sector (BNDES Oil & Gas); and expand the financing of R,D&I for engineering, through Finep and other agencies. At the same time, it would be interesting to facilitate work visa for foreign engineers which bring knowledge, so that recent graduates could also learn from these professional.

Highly competitive financing at real cost for the acquisition of engineering companies abroad should be considered in the same way as the Oil & Gas BNDES program, in order to promote the internationalization of Brazilian-controlled companies looking for new technologies. The South Korea case study showed how the mastering of engineering function - through partnerships, joint-ventures and acquisitions - was fundamental for each one of the sectors focused on development.

D) LOCATION ATTRACTIVENESS AND EXPORT COMPETITIVENESS

This last contribution approaches adjustments in the key-elements of competitive edge for the Oil & Gas supply chain. They are classical economic incentives - with some a bit more bold - that focus on manufacturing location, innovation, export and consequent internationalization of priority business.

These adjustments could become strong

drivers if supported by a clear demonstration by the government of where the development efforts should be concentrated. Through incentives, the government could guide Brazil into the global spotlight on the attraction of investments to the sector.

The incentives were classified as six types in this study, listed as follow. Whenever possible, the proposed policies sought the support of good references already applied in other sectors of the economy, strengthening the national oil industry.

ECONOMIC INCENTIVES

- Compensation of the difference between the cost of imported products after they reach the internal market and the cost of national products, in priority sectors and when the LC is higher than the minimum levels established by the National Petroleum, Natural Gas and Biofuels Agency (ANP). For examples: if a national product costs R\$ 20 more than an imported one, the government might subsidize the difference (income tax credits, for example) for a certain period, in order to develop a similar product in the national market. The reduction of the compensated percentage would be progressive up to zero.
- Tax and fee reliefs for priority sectors on energy (from generation to distribution), steel chain, metallurgy, capital goods and strategic workforce.
- Continuity of special customs regimes as a favoring factor to national industry competitiveness.

INVESTMENT INCENTIVES

- Capital goods investments conversion into tax credit as in the Good Law (Lei do Bem - lei nº 11.196) which establishes deductions from income tax and Social Contribution on Profit to encourage investments.
- Total tax exemption for the first three years of operations for early stage projects from companies installed in the clusters.

EDUCATION INCENTIVES

- Conversion of investments in education and employees training into income tax credit, as in Normative Instruction nº 986, which allows IT or IT and Communication (ITC) companies, included in the actual profit,

to deduct from their net profit the expenses and costs with the training of employees that work with software development.

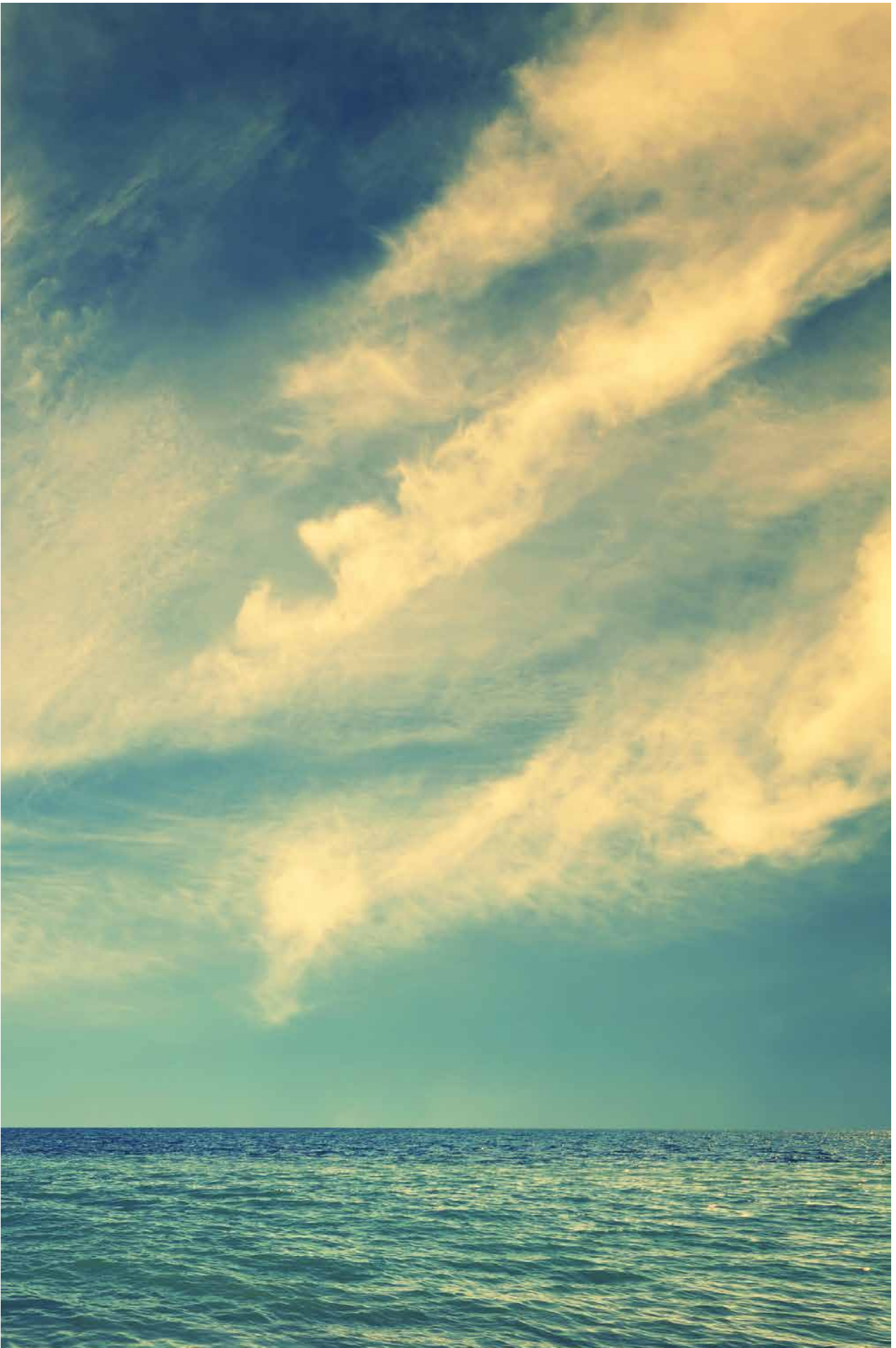
EXPORT INCENTIVES

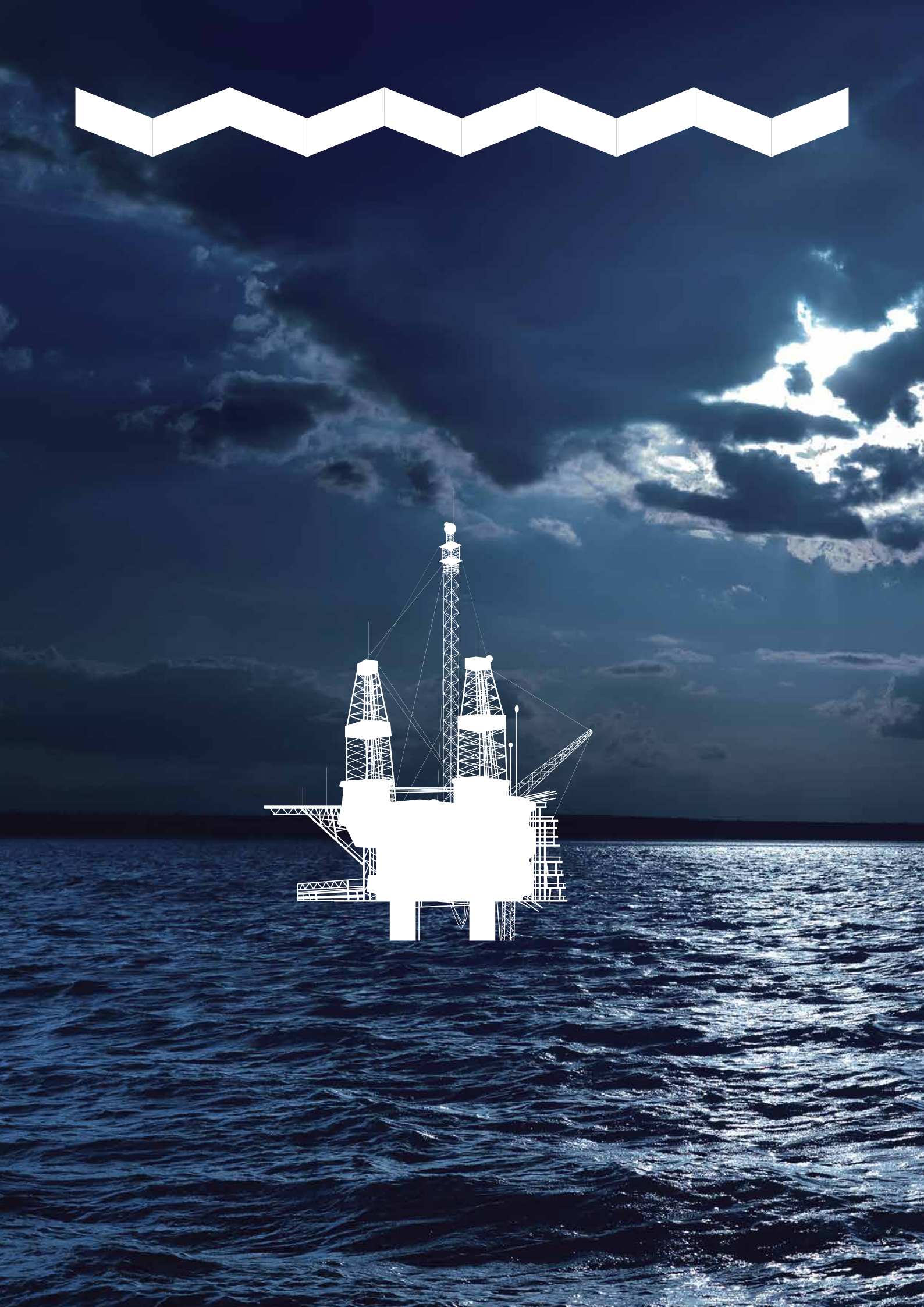
- Progressive tax benefits, proportional to the export coefficient for the priority sectors as in Law of Good.
- Facilitate the interface with external market, similar to the Industrial Warehouse under Computerized Customs Control Regime (Regime de Entrepósito Industrial sob Controle Aduaneiro Informatizado - RECOF), used by Embraer.

FINANCIAL INCENTIVES

- Financing for companies installed in Brazil with real interest rates and terms comparable to Organization for Economic Cooperation and Development (OECD) and other BRICS (Russia, India, China and South Africa), for working capital and acquisitions in domestic market, similar to investment financing (Investment Sustaining Program - PSI from BNDES).
- Highly competitive financing at actual cost for the acquisition of new companies abroad, as in the BNDES Oil & Gas programs, aiming at the internationalization of Brazilian-controlled companies that are seeking for new technologies.
- Reduction of taxes over the capital gains related to venture capital invested in companies of the priority sectors (for private equity and venture capital funds, pension funds and other financial institution funds).
- Financing for export similar to the one offered by ExIM bank, US Export and Import bank, with competitive conditions to face suppliers from South Korea and China.







FINAL

CONSIDERATIONS





FINAL CONSIDERATIONS

With the present study, IBP brings its contribution to leverage the development of the Oil & Gas supply chain of goods and services, with emphasis on the offshore segment, with regards to the historical opportunity made possible by the pre-salt and other offered areas by the Government.

The Institute seeks to bring to light, in a clear and direct way, the new challenges faced by the sector and the importance to enhance the potential of existing policies. We defend that gaining competitiveness at the international sphere, aiming at answering the needs of internal and external markets must be the main objective of a local content policy.

Based on the vision of 75 interviewed stakeholders from the value chain throughout this study, in addition to an analysis regarding the relevance of the Brazilian demand and socioeconomic attractiveness, ten priority sectors emerged, recommended as the focal points for this new development stage in the Brazilian Oil & Gas chain. Then, it was presented a table with these sectors' aspirations that can promote the country to world class level with regards to competitiveness and value generation in the next 15 years. Finally, a set of four enabling policies were proposed that IBP believes to have the potential to speed up the industrialization process of the local supplier's part of the selected sectors.

IBP believes that the presented proposals are worthy inputs for the improvement of the existing local content policies in order to reflect sector's current experienced moment. The focus must be to establish a solid industrial policy, where local content is one of the tools for achieving the strategic goals set by the Government. Nonetheless, to obtain this success, well designed targets are needed and also that the expected impacts are aligned with the expectations of the several stakeholders. Thus, it is possible to list the expected benefits in many aspects for the several stakeholders:

SUPPLY CHAIN

- More attractiveness in Brazil to implement production capacity, export and innovation;
- Supply expansion locally and internationally.

GOVERNMENT

- Maximize socioeconomic impact (GDP, employment, improvement of workforce quality, supply and innovation location).

OPERATORS

- Better capacity to positive contribute with Local Content, reducing and eliminating bottlenecks for implementing projects;
- Improving Brazil's attractiveness as an investment target;
- More attractive project equation, from a economic and financial perspective;
- Continuous access to exploration opportunities.

IBP recognizes the progresses achieved throughout the Bid Rounds for the benefit of the supply chain development. Therefore, the Institute believes that the country faces a favorable moment to a new phase of discussion between stakeholders, in order to align with the paths already defined by the government. IBP works and will continue to work for the convergence of ideas, in rounds of fruitful discussion, so that the sector can expand the total investments in innovation, creating jobs, income and technology to Brazil.

Now is the moment to enhance the understanding on how to press forward this positive agenda, comprehending in detail the critical elements for the priority sectors development, for the positioning of their critical technology agendas and to set a path for sustainable and competitive growth.





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