

# Contents

Preface .....	xv
---------------	----

## Part I: Licensing and Fiscal Framework

### Chapter 1

---

<b>Introduction</b> .....	3
Petroleum fiscal system: Definition and context .....	3
Some concepts and terminology applied in this book .....	6
Licensing system and fiscal system .....	9
Structure of this book .....	13
Notes .....	14

### Chapter 2

---

<b>Licensing petroleum rights</b> .....	17
National management of petroleum resources: An overall framework .....	17
Petroleum policy .....	18
Legislation .....	20
Institutions .....	21
Alternative forms of petroleum licensing .....	24
Concessions (Leases, extraction permits, etc.) .....	25
Production sharing agreements .....	26
Service agreements .....	27
Other petroleum agreements .....	28
Preparations and execution of petroleum licensing .....	29
Licensing terms: Example from a petroleum agreement .....	32
Transparency in petroleum licensing .....	39
The stability of licensing terms .....	41
Legal provisions for fiscal stability .....	42
Reputation for stability .....	44
Summary: Licensing petroleum rights .....	46
Notes .....	46

## Part II: The Fiscal Instruments

### Chapter 3

<b>Levy on production: Royalty, severance tax and revenue sharing</b> . . . . .	51
Definition and purpose . . . . .	51
Differentiation of rates . . . . .	52
United States: Private royalty owners . . . . .	53
Issues of specifying and determining royalty . . . . .	54
Delivery point for royalty . . . . .	54
Fiscal metering and valuation . . . . .	55
Royalty in kind and lifting procedures . . . . .	56
Royalty on natural gas liquids . . . . .	57
Royalty on consumed oil and gas? . . . . .	58
Royalty and revenue sharing: Some examples . . . . .	59
Royalty in Morocco's model agreement . . . . .	61
Alberta: Legislated royalty with progressive elements . . . . .	62
India: Revenue sharing . . . . .	65
Economic characteristics of royalty . . . . .	65
Assured state revenues from valuable production . . . . .	66
The regressive character of royalty . . . . .	66
Preserved incentives for cost efficiency . . . . .	68
Effective royalty rate . . . . .	69
Summary: Royalty . . . . .	69
Notes . . . . .	69

### Chapter 4

<b>Production sharing</b> . . . . .	71
Definition and purpose . . . . .	71
Cost recovery . . . . .	72
Delineation of costs eligible for recovery . . . . .	73
Joint or separate cost recovery among contractor partners . . . . .	75
Allowance for unspecified overhead charge . . . . .	76
Cost recovery limit and carry-forward . . . . .	77
Uplift or interest allowance . . . . .	78
Sharing of profit petroleum . . . . .	80
Production sharing based on Daily Rate of Production (DROP) . . . . .	81
Production sharing based on cumulative production . . . . .	81
Production sharing based on R-factor . . . . .	82
Production sharing based on Rate of Return (ROR) . . . . .	85
Production sharing based on combination of several parameters . . . . .	88
Production sharing calculations . . . . .	89
Calculation of field cash flow . . . . .	89
Calculation of cost recovery and profit oil . . . . .	90

Calculation of production sharing .....	91
Natural gas in production sharing .....	104
Gas as a byproduct .....	104
Gas as a separate product .....	105
No distinction between oil and gas .....	106
Issues of specifying and determining production shares .....	107
Timing of production sharing calculations .....	107
Finance costs in disguise .....	108
Ring fencing and allocation costs between company activities .....	109
Functional currency of the agreement .....	110
Economic characteristics of production sharing .....	110
Production sharing can reward resource firms for investments and risk ..	110
Production sharing is usually progressive .....	111
Production sharing is likely to be the largest source of petroleum revenues for the state .....	111
Production sharing weakens firms' motivations to keep costs down ....	112
With ROR or R-factor, wasteful CAPEX may hurt the state without hurting firms .....	114
Summary: Production sharing .....	121
Notes .....	121

## Chapter 5

<b>Remuneration for service</b> .....	123
Definition and purpose .....	123
Remuneration for service: Some examples .....	126
Economic characteristic of remuneration for service .....	131
Summary: Remuneration for service .....	137
Notes .....	137

## Chapter 6

<b>Bonuses, lease sales and area fees</b> .....	139
Definition and purpose .....	139
Signature bonus .....	139
Production bonus .....	140
Bonuses triggered by other events .....	141
Periodic fee for the license area .....	141
License application fee .....	142
Issues of determining bonuses, lease sales and area fees .....	143
Economic characteristics of bonuses .....	143
A significant but not predominant source of value for resource states ...	144
Fixed-amount bonuses and fees are strongly regressive .....	145
A deterrent to licensing .....	145
Mostly neutral as influence on decisions after licensing .....	146

Production bonus: A poor substitute for royalty .....	146
Bonuses, lease sales and area fees: Summary .....	147
Notes .....	148

## Chapter 7

<b>Privileged state participation.</b> .....	149
Definition and purpose of privileged state participation .....	149
Purposes of privileged state participation .....	149
Privileged participation for non-state, indigenous firms .....	152
Privileged state participation: Some examples .....	153
State participation in Norway's petroleum sector .....	153
Separation of state and NOC interest in Norway .....	155
Angola: Sonangol as a partner in petroleum PSAs .....	156
Uganda: Opt-in as an alternative to carried exploration .....	157
Economic characteristics of privileged state participation .....	158
Similarities and trade-off with production sharing or profit-based tax. .	158
State participation can be a large source of state revenue .....	159
Government take and investment return: A question of perspective . . .	159
Substance and risk sharing .....	159
Impact on decisions .....	160
Privileged state participation: Summary .....	161
Notes .....	162

## Chapter 8

<b>Tax on corporate income and distributed profits</b> .....	163
Definition and purpose .....	163
Basic structure of corporate income tax .....	165
Some principles of corporate income taxation .....	166
Resource rent vs. "normal" business profitability as tax object. ....	167
Relationship between tax accounting and financial reporting .....	167
Issues of specifying and determining corporate income tax for petroleum operations .....	169
Assets, liabilities and capital transactions .....	170
Ring fencing .....	172
Functional currency .....	173
Corporate income tax on petroleum operations: Two examples .....	174
United States: Income taxation of petroleum extraction .....	174
Tanzania: Income taxation of petroleum extraction .....	178
Economic characteristics of corporate income tax on petroleum operations .....	180
A significant source of national income .....	180
Some effect of discouraging investments .....	181
Mostly maintaining costs saving incentive .....	182

Tax on corporate income: Summary .....	182
Notes.....	183

## Chapter 9

<b>Petroleum resource taxes .....</b>	<b>185</b>
Definition and purpose .....	185
Structures of petroleum resource tax.....	186
Tax base for petroleum resource tax .....	186
Tax rates for petroleum resource tax .....	190
Issues of specifying and determining petroleum resource tax .....	191
Issues from the review of Australia's Petroleum Resource Rent Tax .....	192
Economic characteristics of petroleum resource tax .....	197
Petroleum resource tax: Summary .....	205
Notes.....	205

## Chapter 10

<b>Taxes related to inputs and externalities.....</b>	<b>207</b>
Definition and purpose.....	207
Import duties .....	208
The role of import duties in international trade.....	208
Import procedures affecting petroleum operations .....	209
Consumption taxes: Excise duty and value added tax .....	211
International significance of consumption taxes .....	211
VAT can affect petroleum operations .....	213
Public fees and stamp duties .....	215
Withholding taxes .....	215
Payroll taxes and social security .....	216
Taxes and social security payments .....	217
The wider issues of legislated employer-employee relations .....	217
Expatriate employees vis-à-vis national taxes and labor legislation .....	219
Taxes and tradeable allowances related to externalities .....	220
Economic characteristics of taxes related to inputs and externalities .....	222
Taxes on costs are strongly regressive in respect of profits .....	222
Main justification for taxes on inputs: Consistency .....	222
Taxes on inputs and externalities are usually recoverable costs .....	222
Include in cost assumptions for decision-oriented economic analysis .....	223
Taxes related to inputs and externalities: Summary .....	223
Notes .....	224

## Chapter 11

<b>Business obligations in the national interest .....</b>	<b>225</b>
Definition and purpose.....	225
Mandatory work obligations .....	226

The economic weight of obligations in the exploration phase .....	229
Local content obligations .....	230
National policies and strategies for local content .....	230
Legislation of local content obligations .....	232
Local content obligations by agreement: Preferences to local personnel and suppliers .....	236
Training of state personnel .....	237
Domestic supply obligation .....	238
Below-market supply obligation for crude oil .....	238
Supply obligation for crude oil at market consistent pricing .....	241
Domestic supply obligation for natural gas .....	242
Community and social contributions .....	243
Obligations in petroleum agreements to pay for social undertakings, etc. ....	244
Obligations in petroleum agreements for contractor to carry out social programs .....	245
Iraq: Compensated supplementary work under service agreements ....	247
Voluntary charitable contributions .....	248
Economic properties of business obligations in the national interest .....	249
Business obligations in the national interest: Summary .....	250
Notes .....	250

## Part III: Application

### Chapter 12

<b>Fiscal valuation and international tax issues .....</b>	<b>253</b>
Accounting procedures under a Production Sharing Agreement (PSA) ....	255
Functions of the accounting procedure .....	255
Classification of recoverable contract expenses .....	256
Delineation of recoverable costs .....	257
When does a contract expense become recoverable? .....	258
Valuation of recoverable costs and of petroleum sold .....	260
Tax accounting regulations for taxes on profit .....	260
Norway's legislation and regulations for petroleum taxation .....	261
The Petroleum Tax Act: Delineation and valuation for tax .....	261
Regulations under the Petroleum Tax Act .....	263
Regulations under other acts with fiscal implications .....	264
Transfer pricing and cross-border tax issues .....	265
Taxation across borders .....	266
Transfer pricing .....	270
The fiscal value of petroleum .....	274
Determination of transfer points .....	275
Fiscal metering .....	276

Market prices for petroleum .....	277
Transfer pricing issues in petroleum sales. ....	283
Use of non-physical trading instruments: Hedging and speculation on prices .....	287
Transfer pricing of petroleum costs: Use of licensee's assets .....	289
Fiscal administration for the petroleum sector .....	294
Transparency and effectiveness in fiscal administration .....	294
Administrative implications for fiscal design .....	295
Fiscal valuation and international tax issues: Summary .....	297
Notes .....	297

## Chapter 13

<b>Economic issues in exploration and development .....</b>	<b>301</b>
Petroleum exploration economics: Managing risk .....	302
Petroleum development economics: Some features .....	304
Unit of analysis: Well, field, license or larger area .....	305
Project environment and costs .....	307
Oil price drives petroleum investments .....	309
Outcomes differ from original plans .....	312
Development in stages .....	314
Offtake infrastructure as separate projects .....	315
Development concept choices .....	318
Reservoir data and imaging .....	319
Well concepts .....	320
Reservoir management and oil depletion strategy .....	320
Production from an oil zone in a gas reservoir .....	321
NGL optimization from a gas reservoir .....	321
Associated gas utilization .....	322
Extended production testing .....	323
Dedicated or hosted processing .....	324
Lease or ownership of production facilities .....	325
Domestic supply or exports .....	328
Decision processes .....	329
Decisions and decision makers .....	329
Economic decision criteria .....	332
Issues in exploration and development: Summary .....	335
Notes .....	335

## Chapter 14

<b>Fiscal analysis: Purposes and tools .....</b>	<b>337</b>
Fiscal modeling: Introduction .....	337
Fiscal component of enterprise financial projections .....	340
Project economic analysis with fiscal component .....	341

Software tools for petroleum project economics with fiscal calculations .....	342
Sample calculations .....	344
Another example .....	349
Decision analysis for exploration and development .....	350
Fiscal regime modeling .....	353
IMF's FARI model .....	354
A fiscal regime model: <i>Petrosharing</i> .....	354
Sector economic projections .....	359
General requirements for economic modelling .....	361
Fiscal analysis—purposes and tools: Summary .....	363
Notes .....	363

## Chapter 15

<b>Fiscal analysis: Selected parameters</b> .....	365
Profitability indicators .....	367
Net present value (NPV) .....	367
Internal rate of return (IRR) .....	371
Expected Monetary Value (EMV) .....	372
Measures of enterprise profitability .....	372
Fiscal regime indicators .....	373
Government take (Average effective tax rate) .....	373
Front vs back loading .....	375
Savings index .....	380
Indications of progressivity .....	390
Fiscal neutrality: Exploration and development decisions .....	393
Fiscal neutrality: Alternative and incremental development decisions .....	403
Risk exposures .....	407
Fiscal analysis; some parameters and calculations: Summary .....	412
Notes .....	412

## Chapter 16

<b>Fiscal design</b> .....	415
The need for petroleum fiscal systems to be different .....	416
Differences in geological and geographical conditions .....	416
Differences in societal conditions and policy goals .....	419
Differences in accumulated knowledge .....	422
Fiscal design as a work process .....	423
Fiscal design in eight steps .....	424
Assessment of external and natural conditions (Step 1) .....	424
Assessment and preparation of internal conditions (Step 2) .....	426
Stakeholder consultations (Step 3) .....	428
Goals for the petroleum fiscal system (Step 4) .....	429



Functional goals proposed for petroleum fiscal systems .....	430
Economic goals proposed for petroleum fiscal systems .....	432
Qualitative analysis and tentative selection of fiscal instruments (Step 5) .....	438
Quantitative analysis with fiscal modelling (Step 6) .....	448
Alignment (Step 7) .....	450
Approval and implementation (Step 8) .....	451
Fiscal design: Summary .....	451
Notes .....	451
<b>Glossary .....</b>	<b>453</b>
<b>Bibliography .....</b>	<b>459</b>

There is a need for exploration work obligations to be based on informed assessments of prospectivity, economic potential and the national strategy for building knowledge on petroleum resources. Excessive work obligations are costly; in particular, an obligation to drill a well with a negative outcome nearly assured is a significant waste of money. The cost is carried by the licensee, but government cannot expect to fully escape the economic consequence of such imposed waste, as other prospective licensees will observe what is happening and be influenced in their assessment of the country as an attractive exploration venue. Depending on the fiscal system, there may also be more direct fiscal consequences of unsuccessful exploration, in the form of tax deductions.

## **Local content obligations**

Countries that have petroleum resources usually harbor ambitions for their own workforce and businesses to participate in the petroleum sector as employees and suppliers, and to acquire the relevant technologies and capabilities. It is seen as a way of increasing and widening the benefits that a country can have from petroleum, building industrial capacity, creating job opportunities and generally stimulating economic and social growth. Such ambitions are often expressed as part of petroleum policy, in some countries also in a separate policy document addressing the issue of national engagement in the sector. The issue is often labelled as “local content” or “national content.”

### **National policies and strategies for local content**

Trinidad and Tobago (2004) and Ghana (2010) are examples of countries having issued policies for local content as formal documents. National policies are followed up by legislation, contract provisions and programs designed to increase the participation of nationals in the sector. This inevitably entails obligations and expectations of resource firms.

While the general idea of engaging personnel and businesses of the host nation in petroleum sector work has gained wide acceptance, there are different views of what local content really means and how it should be promoted. It is sometimes linked to the nationality of firms contracted as suppliers to petroleum operations. The problem with this became evident as the author visited the office of an international oil company in a low-income African nation. In the parking lot were five new, large sports utility vehicles of American brand. They had certainly not been manufactured in that country. The company representative nevertheless touted the vehicles as part of “local content,” because the company had bought them through a local dealer. Excessive focus on the nationality of involved firms can create misleading impressions and wasted opportunities for valuable and substantial local content advances. The nationality of firms is

anyway an elusive issue in the age of global businesses and international capital movements.

Farouk Al-Kasim has proposed the following definition: *Local Content is income received by locals in return for their contribution to petroleum operations.*<sup>1</sup> The focus here is on value creation, not contracts. It implies that when an international supplier firm to the petroleum industry establishes a base in a host country and employs local personnel to serve petroleum operations from there, then the work by those local personnel is also local content. It would not have been if the definition of local content were based on the nationality of the supplier firm. Al-Kasim's definition of local content can be linked to national accounting and the computation of gross national income (GNI): The portion of expenditures on petroleum operations that become part of the host nation's GNI is local content. It comprises all income earned by nationals from their contribution of labor, land and capital to petroleum operations.

The issue of local activities by international firms is important due to the globalized nature of much of the petroleum sector supplier industries. The likes of Halliburton, Schlumberger, the large drilling contractors and geophysical companies have built competencies and capital assets that can be effectively deployed on a global scope of business, not limited to certain nations. The forefronts of technological and operational standards are held by firms that operate globally, and they are not inclined to give up their most valuable resources. Insistence that firms supplying the petroleum sector should be locally owned risks shutting the nation's petroleum sector off from state-of-the-art technologies and standards, which can have adverse implications for operational effectiveness and safety. Arrangements of required joint ventures between local and international firms are sometimes imposed to promote local content, but given the fundamental interest of international, high-competence supplier firms, such joint ventures risk becoming artefacts where form prevails over substance. In spite of all this, there is scope for local content even in segments of the supplier industries that are dominated by international firms. It can be achieved by encouraging the international firms to establish a substantial presence in the country, employing and training locals, buying from local firms, with or without a local joint venture partner.

Governments use a variety of strategies to promote local content. The most constructive and least intrusive strategies, from resource firms' perspective, entail building capacity in the economy for contributing to petroleum sector work. This includes educational and vocational training programs designed to meet the needs for qualified personnel in the sector, infrastructure, industrial zones suited to activities serving the petroleum sector, enhancing "ease of doing business" qualities and generally enhancing the country as a competitive business location.<sup>2</sup> Such strategies, if successful, should cause more activities in support of petroleum operations to be carried out in the country and by nationals.

A national oil company can have a role in local content strategy. It can be instructed (and may be inclined anyway) to hire locals and engage with local

suppliers, possibly in long-term programs for developing local suppliers' capabilities. This may to some extent also apply to non-state indigenous companies.

Other strategies for local content entail obligations on resource firms, including those coming from outside the country. Such obligations may be stated in legislation or in petroleum agreements. The obligations generally concern three aims:

- Larger role for nationals as employees of the resource firms;
- Capacity building with national authorities and national oil company;
- Increased procurement of locally made goods and services.

The obligations can be hard or soft, i.e., setting quantified requirements or taking a more procedural and qualitative approach. This may have an impact on how authorities and firms interact on local content issues. The interaction can be mainly co-operative, with emphasis on seeking workable solutions together, or more adversarial with emphasis on quantified obligations, monitoring and possibly sanctions. In addition to obligations directly addressing the aims listed in the bullet points above, there may be procedural obligations, such as requirements for firms to submit plans for local content for approval by authorities.

## Legislation of local content obligations

Brazil, Nigeria and Ghana are examples of countries that have legislated strict and specific requirements for local content. The Nigerian Oil and Gas Industry Content Development Act from 2010 defines Nigerian Content as the quantum of composite value added to or created in the Nigerian economy—not very different from Al-Kasim's definition referred to earlier. Prior to this legislation, Nigeria had, as a nation, largely failed to achieve significant national content despite having been an oil producer since the 1950s, with Nigerian content estimated at 2%-5%.

The Nigerian Act provides that companies in the industry shall employ only Nigerians in junior and intermediate positions, and not more than 5% non-Nigerians in managerial positions. It requires 1% of the value of all supplier contracts be paid into a Nigerian Content Development Fund, to be managed by a state board and used for programs to enhance Nigerian Content. The Act sets minimum required levels of Nigerian content for 277 different items of equipment and services used in petroleum operations, some of which are shown as examples in Table 11-1. The text of the Act specifying the requirement is shown in Box 11-2. It provides that the required levels of national content are applied from the commencement of the Act, but that the Minister might grant exemptions for up to 3 years from that time.

## Box 11-2 Minimum and specification of Nigerian content

### *Article 11 of the Nigerian Oil and Gas Industry Content Development Act, 2010*

- (1) As from the commencement of this Act, the minimum Nigerian content in any project to be executed in the Nigerian oil and gas industry shall be consistent with the level set in Schedule to this Act.
- (2) Where a project description is not specified in the Schedule to this Act, the Board shall set the minimum content level for that project or project item pending the inclusion of the minimum content level for that project or project item through an amendment of the Schedule to this Act by the National Assembly.
- (3) All operators, alliance partners and contractors shall comply with the minimum Schedule Nigerian content for particular project item, service or product specification set out in the schedule to this Act.
- (4) Notwithstanding the provisions of subsection (1) of this section, where there is Schedule inadequate capacity to any of the targets in the Schedule to this Act, the Minister may authorize the continued importation of the relevant items and such approval by the Minister shall not exceed 3 years from the commencement of this Act.

**Table 11.1.** Required Nigerian Content, category of Well and Drilling services/Petroleum Technology.  
*Extract from the Schedule to the Nigerian Oil and Gas Industry Content Development Act, 2010.*

#### WELL AND DRILLING SERVICES/PETROLEUM TECHNOLOGY

Reservoir services	75% Spend
Well completion services (permanent gauges and intelligent wells)	80% Spend
Wire line services (electric open holes, electric cased hole, slickline)	45% Spend
Logging While Drilling (LWP) services	75% Man Hour
Measurement While Drilling (MWD) (direction and inclination/ Gamma ray)	90% Man Hour
Production drilling service	85% Man Hour
Performance Services (T and P)	90% Man Hour
2D Seismic data acquisition services	85% length
Well Overhauling/Stimulation Services	80% Man Hour
Wellhead Services	100% Man Hour
Directional Surveying Services	100% Man hour
Cutting Injections/Cutting Disposal Services	100% Man Hour
Recutting Inspection Services	85% Man Hour
Cased Hole logging Services (Gyro, Perforation, Ganges, Gyro, PLT, Perforation, PLT, Ganges)	90% Man Hour
Well Watch Services	70% Man Hour
Cement service	75% Man Hour

**WELL AND DRILLING SERVICES/PETROLEUM TECHNOLOGY**

Coiled Tubing Services	75% Man Hour
Pumping Services	95% Man Hour
Fluid/Bottom Hole Sampling Services	80% Man Hour
OCXS Services (Cleaning, hardbanding, recutting, rethreading, storage)	95% Man Hour
Well Crisis Management Services	90% Man Hour
Directional Drilling Services	90% Man Hour
Other Drilling Services	80% Man Hour
Petrophysical interpretation Services	75% Volume/ Man Hour
Extended Wall Test/Early Production Services including provision of Floating or Jackup Production Unit	50% Man Hour
Provision of all Catering, Cleaning, Office and; Security Service at location/ Platform	80% Man Hour
Rental of Drill Pipe	75% Man Hour
Electric Open Hole	45% Man Hour
Electric ceased Holes	100% Man Hour
Slickline	100% Man Hour
Well head Safety panels	100% Man Hour
Chemical: Drilling, process, Maintenance	90% Man Hour

The three years for which the Minister could approve continued imports in excess of the percentages resulting from the Schedule of the Act was criticized at the time for being an unrealistically short period, because the country lacked the facilities required.<sup>3</sup> One might add that this kind of local content requirement, specified as percentages for 277 different items, represents a significant degree of political micro-management of the industry, is clearly protectionist and is at odds with the global nature of key segments of the supplier industries. Notwithstanding the criticisms that can be raised against it, the industry and authorities in Nigeria have somehow coped with the Act, and oil continues to be produced there. Two years after the introduction of the Act, the executive secretary of the Nigerian Content Development and Monitoring Board assessed the Nigerian content attained as being between 12% and 18%, higher than the 2%-5% before legislation of the Act, but much lower than the requirements set for most items in the Act (including those shown in Table 11.1).<sup>4</sup>

Ghana has also set minimum local content for a large number of equipment and service items in its Petroleum (Local Content and Local Participation) Regulations, 2013. Ghana's regulation has differentiated between the minimum portions of local content applicable from the start of each license or petroleum agreement and the higher portions applicable after 5 and 10 years. It allows the Minister to vary the percentages of minimum required local content.

### **Box 11-3 Provisions for training of local employees and plan in Angolan model PSA**

#### ***(Excerpts from Article 36; translated version)***

2. In planned, systematic and various ways and in accordance with the provisions of this Article, Contractor Group shall train all its Angolan personnel directly or indirectly involved in the Petroleum Operations for the purpose of improving their knowledge and professional qualification in order that the Angolan personnel gradually reach the level of knowledge and professional qualification held by the Contractor Group's foreign workers. Such training shall also include the transfer of the knowledge of petroleum technology and the necessary management experience so as to enable the Angolan personnel to use the most advanced and appropriate technology in use in the Petroleum Operations, including proprietary and patented technology, "know how" and other confidential technology, to the extent permitted by applicable laws and agreements, subject to appropriate confidentiality agreements.

4. Besides other duties provided for in the Law, the recruitment, integration and training of Contractor Group's Angolan personnel shall be included in three-year plans. In this respect, the Contractor Group undertakes, notably, to:

- (a) prepare a draft of the initial plan and submit it to Sonangol within four (4) Months of the Effective Date;
- (b) prepare a proposal for implementation of the plan and submit it to Sonangol within one (1) Month of the approval of such plan by the Ministry of Petroleum;
- (c) implement the approved plan in accordance with the directives of the Ministry of Petroleum and Sonangol, Contractor Group being able, in this regard and with the approval of Sonangol, to contract outside specialists.

5. Contractor Group agrees to require in its contracts with subcontractors who work for Contractor Group for a period of more than one (1) Year, compliance with requirements for the training of work crews, to which requirements such subcontractors are subject by operation of current law. Contractor Group further agrees to monitor compliance with the aforementioned obligations.

6. Contractor Group shall be responsible for the training costs of Angolan personnel it employs, such costs being recovered as Production Expenditures. Costs incurred by Contractor Group for training programs for Sonangol personnel will be borne in a manner to be agreed upon by Sonangol and Contractor Group.

## Local content obligations by agreement: Preferences to local personnel and suppliers

Additional to the legislated obligations for local content, obligations for similar purposes are often found in petroleum agreements.

Brazil, a country noted for quite challenging local content rules, has included such rules in legislation as well as in petroleum agreements. Some Brazilian concession agreements, depending on when they were made, contain comprehensive and specific rules on local content. More recent licensing rounds, such as the 14<sup>th</sup> bidding round in 2017, had simplified and less stringent local content rules compared to earlier bidding rounds.<sup>5</sup>

In other countries, the agreed provisions for local content are usually less stringent than the legislated ones referred to in the previous sub-section, especially in agreements that are older than the legislation.

Provisions in Angola's model PSA for training local employees are shown in Box 11-3. Certain other PSAs in addition require preferential treatment of nationals for positions in the contractor's organizations, sometimes with percentages of positions in various categories to be filled by national employees.

### **Box 11-4 Provisions for preference for local goods and services in Kenya's model PSA (*Article 31*)**

(1) The contractor, its contractors and sub-contractors shall give preference to Kenyan materials and supplies for use in petroleum operations as long as their prices, quantities and timeliness of delivery are comparable with the prices, quality, quantities and timeliness of delivery of non-Kenyan materials and supplies.

(2) The contractor, its contractors and sub-contractors shall give preference to Kenyan contractors for services connected with petroleum operations as long as their prices, performance and timeliness are comparable with the prices, performance and timeliness of non-Kenyan service contractors.

(3) The contractor, its contractors and sub-contractors shall provide supplies and services from bases in Kenya where practicable.

(4) The contractor shall -

(a) on or before the beginning of each calendar year to which it applies, submit to the Minister a tentative schedule of the contemplated service and supply contracts with an estimated value exceeding the equivalent of . . . . . U.S. dollars per contract, to be let during the forthcoming calendar year, showing the anticipated tender date and approximate value and the goods and services to be provided;

(b) for contracts with an estimated value exceeding the equivalent of . . . . . U.S. dollars per contract, undertake to select its contractors and sub-contractors from adequately qualified companies by means of



- competitive bidding or by another appropriate method in accordance with good international petroleum industry practice;
- (c) as soon as practicable after their execution, provide to the Minister a copy of each contract, requiring a payment in a currency other than Kenya Shillings and a brief description of the efforts made to find a Kenyan supplier or service contractor;
  - (d) the minimum amount specified under this sub-clause 31 (4) may be changed from time to time by mutual agreement.

Preferences for local procurements are also a common feature of PSAs. An example from Kenya's model agreement is shown in Box 11-4. The provisions in the Kenyan example are less stringent than those found in many other contracts. Other contracts may stipulate that procurements shall be made from local suppliers as long as the price is within a certain percentage, for example 10%, of the lowest bid, subject to comparable and acceptable quality and availability. The terms "Kenyan materials and supplies" and "Kenyan contractors" are not defined, leaving room for ambiguity. The procedural provisions, sub-clause (4) in the Kenyan example, are more elaborate in some other PSAs, with requirements designed to ensure that local suppliers are not unduly disadvantaged due to the scope and form of bidding requirements. This clause in the Kenyan model PSA is followed by a clause 32 on exports and imports, which explicitly permits the contractor to import such goods as he may require for the petroleum operations.

## Training of state personnel

Many petroleum agreements require that the contractor shall provide training for personnel of the petroleum authority or other state institutions, including the national oil company. Box 11-5 shows an example of such a provision from Morocco's model petroleum agreement. "PETCO" is here a generic contractor, and "ONHYM" is the petroleum authority. In this case and many others, the training obligation is stated as a USD amount, which can presumably be used to attend courses. In other cases, there may be provisions for a limited number of personnel of the national institution to spend some time working in the contractor's organization, as a more hands-on and experience-based form of training. This is probably more relevant for personnel of the national oil company than for authorities' personnel.

### **Box 11-5 Provisions for training of petroleum authority staff in Morocco's model petroleum agreement**

9.1 PETCO shall contribute to the training of ONHYM's staff and technicians up to ..... US Dollars (US \$ ..... ) for each twelve (12) Month period during the entire duration of this Agreement. The annual contribution to training shall be increased by ..... US Dollars (US \$ ..... ) each time an Exploitation Concession is granted. The training programs and the method and schedule of payment of these contributions shall be established by agreement between the Parties, and shall include the costs of all training organized by PETCO on behalf of the personnel of ONHYM.

If PETCO is going to retire from this Agreement, PETCO must complete any training program already in progress and shall not be required to contribute to training programs other than that already in progress. Moreover, it is agreed that the accumulated outstanding amounts of the annual training budgets will be paid by the PETCO to ONHYM in accordance with and on written request from ONHYM.

9.2 Pursuant to Article 47 of the Law, all training expenses incurred by PETCO in accordance with Article 9.1 of this Agreement shall be considered as costs of exploration or exploitation in relation to the Exploration Permit(s) or Exploitation Concession(s), as the case may be.

## **Domestic supply obligation**

It is common for petroleum agreements to contain a provision requiring the contractor to sell some or all of his production for supply to the local market, usually by selling it to a government-nominated entity. The price of such sale is addressed in the relevant article. It can be consistent with market-based pricing, or it can be a lower price. In the latter case, often found in countries having a tradition of subsidized petroleum fuels prices, this can be a substantial economic burden (loss of value) for the contractor.

### **Below-market supply obligation for crude oil**

Box 11-6 shows the provision for domestic supply obligation for crude oil from an Indonesian PSA. Indonesia's government for many years kept fuel prices for domestic consumption significantly below world market prices as a boon to those citizens who could afford to own cars. Its PSAs required oil firms to give up parts of their crude oil entitlements at a price of 25% of the value obtained for other cargoes.<sup>6</sup> The domestic supply obligation is 25% of the contractor's entitlement. It might have been less pursuant to the (a) provision shown in Box 11-6, if Indonesia's domestic oil consumption had been less than 25% of its production, but that has not been the case since 1980.

**Box 11-6 Domestic supply obligation for crude oil from an Indonesian PSA (*Production sharing contract for Yapen Block, September 27th, 1999, Article 5.2.15*)**

. . . . . after commercial production commences, fulfill its obligation towards the supply of the domestic market in Indonesia. CONTRACTOR agrees to sell and deliver to PERTAMINA a portion of the share of the Crude Oil to which CONTRACTOR is entitled pursuant to clauses 6.1.3 and 6.3.1 calculated for each Year as follows:

- (a) multiply the total quantity of Crude Oil produced from Contract Area by a fraction the numerator of which is the total quantity of Crude Oil to be supplied and the denominator is the entire Indonesian production of Crude Oil of all petroleum companies;
- (b) compute twenty-five percent (25%) of total quantity of Crude Oil produced from the Contract Area;
- (c) multiply the lower quantity computed, either under (a) or (b) by the resultant percentage of CONTRACTOR's entitlement as provided under clause 6.1.3 hereof;

The quantity of Crude Oil computed under (c) shall be the maximum quantity to be supplied by CONTRACTOR in any Year pursuant to this paragraph, and deficiencies, if any, shall not be carried forward to any subsequent Year; provided that if for any Year the recoverable Operating Costs exceed the difference of total sales proceeds from Crude Oil produced and saved hereunder minus the First Tranche Petroleum as provided under Section VI hereof, CONTRACTOR shall be relieved from this supply obligation for such Year.

The price at which such Crude Oil shall be delivered and sold under this clause 5.2.15 shall be twenty-five percent (25%) of the price as determined under clause 6.1.2 hereof, CONTRACTOR shall not be obligated to transport such Crude Oil beyond the Point of Export but upon request CONTRACTOR shall assist in arranging transportation and such assistance shall be without costs or risk to CONTRACTOR.

Notwithstanding the foregoing, for the period of five (5) consecutive years (meaning sixty (60) months) starting the month of the first delivery of Crude Oil produced and saved from each field in the Contract Area, the fee per Barrel for the quantity of Crude Oil supplied to the domestic market from each such field shall be equal to the price determined in accordance with Section VI hereof for Crude Oil from such field taken for the recovery of Operating Costs. The proceeds in excess of the aforesaid twenty-five percent (25%) shall preferably be used to assist financing of continued exploration efforts by CONTRACTOR in the Contract Area or in other areas of the Republic of Indonesia if such opportunity exists. In case no such opportunity can be demonstrated to exist in accordance with good oil field practices, CONTRACTOR shall be free to use such proceeds at its own discretion;