

ASSESSMENT OF NATURAL RESOURCES - POINT OF VIEW OF THE IASB

LEONTINA PĂVĂLOAIA

FEBA, „ALEXANDRU IOAN CUZA” UNIVERSITY OF IASI
betianu@uaic.ro

Abstract:

The complexity of the issues that need to be considered when assessing mineral resources determined IASB to make research on the topic and to initiate a new project designed to analyze the particular accounting aspects related to extractive industry. The main issues under survey are related to the financial information on reserves and resources, on defining, finding, assessing and including them in financial statements. This was due to the different practices employed by the various companies operating in the extractive industry. This paper describes the main evaluation methods used to evaluate reserves and their representation in the annual financial statements, as well as the impact of IFRS 6 adoptions on the published information.

Key words: *natural resources, evaluation, financial statement*

JEL classification: *M41, O13*

Introduction

The complex issues of the mineral resources approaches determined IASB²⁰⁵ to initiate a new project meant to define the particular characteristics of the extractive industry relying on the *UNECE Group of Experts on the Harmonization of Fossil Energy and Mineral Resources* program to evaluate both reserves and resources. The agenda included the main aspects that need to be analyzed in relation to the financial information on reserves and resources, on defining, finding, assessing and including them in financial statements. The purpose of this project²⁰⁶ is:

- to define reserves and resources in financial statements:
 - harmonization of existing definitions (we analyzed mainly the mining definitions developed by CRIRSCO and JORC, and the oil and gas definitions developed by SPE/WPC/AAPG, UNFC and SEC);
 - development of concepts able to identify the main characteristics of reserves and resources for accounting and information purposes;
- to identify the reserves and resources that meet the criteria of registration under assets in the financial statements;
- to set the method employed to assess reserves and resources and to include them in the financial statements:
 - purchase and/or strike costs (it may be the historical cost determined by the: successful efforts method, area of interest method, full cost method of other methods);
 - just value of reserves and resources;
 - other evaluation bases;
- to determine the manner in which reserves and resources will be assessed after their initial acknowledgement (reevaluation, depreciation, amortization);

²⁰⁵ <http://www.iasplus.com/agenda/extract2.htm>, January 2013

²⁰⁶ IASB, *Extractive Activities Research Project*, December 2007, <http://www.iasb.org/NR/rdonlyres/A6AF0296-838D-4217-99B9-77D3A104843C/0/ExtractiveprojectupdateSept07.pdf>, p.5

- to set the actual committed costs recording before reserves or resources representation in the financial statements (under expenditure or fixed assets);
- to specify the information on reserves and resources that will be provided by the financial statements.

There were several meetings and debates on this topic, and the paper called *Extractive Activities*²⁰⁷ was published in April 2010 for public debate purposes. IASB has not yet issued any regulation amending IFRS 6.

The IFRS 6 regulation drafted in 2004 requires:

- limited improvements of the existing accounting practices for *exploration and evaluation costs*;
- that the entities acknowledging *exploration and evaluation costs* should test these assets for depreciation according to IAS 36 *Impairment of Assets*;
- the inclusion of information identifying and accounting for the amounts in the entity's financial statements resulting from mineral resources exploration and evaluation, which help the users of these financial statements understand the amounts, the time of their generation and the certainty of future cash flows related to any acknowledged exploration and evaluation assets.

Table no. 1 Standards Regulating the International Extractive Industry

Country	Industry	Standard
USA	Mines	FASB has not issued any standard regulating the mining industry; yet paragraph 14.a of FAS 89 - <i>Financial Reporting and Changing Prices</i> (1986) tackles mineral resources assets, whereas SEC drafted an accountancy guide for mining companies.
	Oil and Gas	FASB drafted FAS 19 <i>Financial Accounting and Reporting by Oil and Gas Producing Companies</i> in 1977, FAS 69 <i>Disclosures about Oil and Gas Producing Activities</i> in 1982, interpretation 33 <i>Applying FASB Statement No. 34 to Oil and Gas Producing Operations Accounted for by the Full Cost Method</i> in 1980, and interpretation 36 <i>Accounting for Exploratory Wells in Progress at the End of a Period</i> in 1981.
UK	Mines	The Accounting Standards Board (ASB) in UK has not issued any standard for the mining industry.
	Oil and Gas	The Oil Industry Accounting Committee (OIAC) in UK drafted the Statement of Recommended Practice (SORP), <i>Accounting for Oil and Gas Exploration, Development, Production and Decommissioning Activities</i> (2000).
Australia	Mines Oil and Gas	AASB 1022 and AAS 7, <i>Accounting for the Extractive Industries</i> , were drafted in 1989.
Canada	Mines	The Canadian Institute of Chartered Accountants (CICA) drafted the <i>Accounting and Financial Reporting by Junior Mining Companies</i> standard in 1988.
	Oil and Gas	CICA drafted the <i>Full Cost Accounting in the Oil and Gas Industry</i> guide in 1990.
Indonesia	Mines	The Indonesian Institute of Accountants issued standard 33 - <i>Accounting for the General Mining Industry</i> in 1994.
	Oil and Gas	Standard 29 - <i>Accounting for Oil and Gas Industry</i> in 1994.
Nigeria	Mines	No mining standard has been drafted.
	Oil and Gas	The Nigerian Accounting Standards Board issued two standards regulating the oil and gas industry: standard 14, <i>Accounting in the Petroleum Industry: Upstream Activities</i> (1993) and standard 17,

²⁰⁷ IASB, *Extractive Activities*, 2010, <http://www.ifrs.org/Current-Projects/IASB-Projects/Extractive-Activities/DPAp10/Documents/DPExtractiveActivitiesApr10.pdf>

Country	Industry	Standard
		<i>Accounting in the Petroleum Industry: Downstream Activities</i> (1997).
South Africa	Mines	The Accounting Practices Committee of the Chamber of Mines together with the Accounting Practices Committee of The South African Institute of Chartered Accountants issued the <i>Accounting and Reporting Practices in the Mining Industry</i> in 1995.
	Oil and Gas	No standard regulating the oil and gas industry has been drafted.

Source: IASC, *Extractive Industries*, Issues Paper, November 2001, pp. 377-384

Before IFRS 6 drafting, IASB set up an Advisory Committee in 1998 that was supposed to analyze extractive industry activities. The committee analyzed the current practices and some national standards regulating the extractive industry, which they included in the paper called *Extractive Industries* published in November 2000. Table no. 1 shows the standards analyzed in the paper referred to above.

The impact of IFRS 6 adoption depends on previous accounting practices. One of the most passionate debates before IFRS 6 adoption was generated by the choice of the method most suited to reflect this activity in the books. Yet, as no agreement has been reached on this topic, the standard does not include any provision regulating the choice of the accounting method used.

Costs representation methods used in the extractive industry

The following costs bookkeeping methods are used by the current extractive industry practices²⁰⁸:

- the **full cost method** includes all the costs related to crude oil and gas reserves exploration and development regardless of the success or failure of this activity. The costs are collected on “cost pools”, and the expenditure is divided among these cost pools depending on the income resulting from the valorization of the reserves associated to each cost pool. The *cost pool* is used by the full cost method as basic unit for amortization, evaluation and development costs collection and for depreciation test performance. The cash flows generated by the cost pools may be allocated depending on the same factors. The cost pools have certain common characteristics determined by the: geological area, infrastructure interdependence, common economic environment, common markets development. These cost pools are usually oil wells or oil fields;

- the **successful efforts method** only takes into account the exploration costs which are directly related to commercial crude oil and gas reserves strike and development, and which are recorded in the books and amortized during the operation of these assets. The success or failure of each exploration effort is analyzed for each particular field, depending on the identified and tested reserves. A “*field*”²⁰⁹ is an area that has one or several reserves grouped together or connected by the same individuals and/or layered geological structure;

- according to the **area of interest method**, the costs are collected on individual geological areas where the exploration activities are conducted, for which there are clues that they contain minerals. If reserves are identified in the area of interest, the recorded costs are capitalized and amortized during the reserve exploitation period. If the reserve is not exploitable, the recorded costs are included in the expenditure of that particular period. This method is different from the successful-efforts method as it does not make any connection between the capitalized costs and the specificity of the reserves found. Most mining companies use a combination of the area of interest method and the successful efforts method, and they record all the prospecting and

²⁰⁸ IASC, *Extractive Industries*, Issues Paper, November 2001, pp. 71-80, p.131

²⁰⁹ SORP - Statement of Recommended Practice, *Accounting for Oil and Gas Exploration, Development, Production and Decommissioning Activities*, June 2001, pp. 6-7

exploration costs under the expenditure of the period when they were incurred up to the moment when commercial reserves are identified; after that, all the costs are capitalized;

- the **accounting allocation method** is used mainly by a series of mining companies in South Africa. The costs are accounted for using rules that are similar to the successful efforts method. However, the capitalized costs amortization is not recorded since the mine is thought to have a definite life and it does not require replacement funds; the only expenditure it needs is used to maintain the existing facilities. This method is usually used by companies that have a single mine²¹⁰.

The main difference²¹¹ between the full cost method and the successful efforts method (which are the most common methods employed in the oil and gas industry) consists of the actual recording of these costs in the financial statements. Thus, the successful efforts method immediately reflects the failure of the exploration activity in the profit and loss account, whereas the full cost method reflects these costs in the profit and loss account at a later time, namely when these costs are amortized. The impact of exchanging the full cost method for the successful efforts method consists of net initial assets diminution and, consequently, of reducing the acknowledged amount in the profit and loss account, by reducing the amortization. Mining companies usually prefer the area of interest method. Nevertheless, they sometimes also use the full cost and successful efforts methods. In fact, the major differences between these methods are related to the manner in which the explorations costs are dealt with. Generally, the costs committed before the purchase of the exploration rights and the costs incurred after the purchase are dealt with in a similar manner.

The exploration activity, risk undertaken and forecasted result have greater importance in the oil than in the mining industry, with some exceptions. In the mining industry, the efforts, risks and reward depend rather on the ability to produce and valorize known reserves on a commercial basis than on the ability to identify reserves. The debates on the use of either of these methods bear a considerable importance in the oil industry. In the mining industry, these methods have approximately the same relevance²¹².

IFRS 6 includes no provision on the expenditure representation method. In fact, this regulation allows a certain degree of freedom to entities in choosing their accounting policies, as it accepts a derogation from the requirements of paragraphs 11 and 12 of IAS 8 providing the requirements and guidelines that an entity should take into consideration when developing an accounting policy for one particular item in the absence of a specific standard (IFRS 6.7). Therefore, an entity that adopts IFRS 6 may continue to use previous accounting practices in their accounting method.

KPMG²¹³ published in 2007 the results of a study on the impact of IFRS 6 adoption by 12 companies operating in the extractive industry in the UK on 1 January

²¹⁰ *Idem*, pp. 8-9

²¹¹ Various practices used to account for oil and gas industry activities were developed between 1950 and 1960. In fact, this period saw the development of two methods applied to this field, namely the: *full cost method* and the *successful efforts method*. In 1977 FASB passed the FAS 19 regulation, *Financial Accounting and Reporting for Oil and Gas Producing Activities*, which recommends that all the companies operating in the crude oil and gas industry in the USA should use the successful efforts method for cost recording. SEC – the Securities and Exchange Commission in the USA also accepted the full cost method. In fact, the successful efforts method was applied by large companies, whereas small businesses preferred the full cost method. The latter insisted that FASB amend FAS 19, which resulted in the passing of FAS 25 *Suspension of Certain Accounting Requirements for Oil and Gas Producing Companies—an amendment of FASB Statement No. 19* in 1978, which allow the use of either of the two methods. The SORP regulation - *Accounting for Oil and Gas Exploration, Development, Production and Decommissioning Activities* issued by Oil Industry Accounting Committee of UK also provides for the use of both methods.

²¹² IASC, *Extractive Industries*, Issues Paper, November 2001, pp. 80-83

²¹³ KPMG, *Assessing the Impact Adoption of IFRS 6: Exploration for and Evaluation of Mineral Resources by Oil & Gas Companies*, 2007, http://www.kpmg.ca/en/industries/enr/oil/documents/306-499Assessin_gthe_Impact_interntaional_Accessible.pdf, pp.8-13

2005. The British SORP standard allows the use of two methods to record the exploration and evaluation costs, namely: the full cost method and the successful efforts method. In the research it conducted, KPMG analyzed the effects of the cost recording method change on the financial statements. 5 of the 12 companies continued to apply the successful efforts method, 5 replaced the full cost method by the successful efforts method, and 2 continued to use the full cost method. The analysis carried out revealed that IFRS 6 adoption by companies that continue to use the successful efforts method had no significant effects on the financial statements. On the other hand, in 4 of the 5 companies that decided to change the method the impact was significant. Thus, the change of method implemented by the Melrose Resources plc company resulted into a 33 mil. \$ decrease of its tangible assets at the end of 2004, whereas in the case of the Cairn Energy plc company the assets decreased by 63 mil. \$. IFRS 6 adoption by companies that continued to use the full cost method may impact their financial statements. This impact depends on the history of their transactions and on their method of accounting for the pre-license costs. The adoption of this standard by the analyzed companies led only to the reclassification of their assets.

IFRS 6 applies only to the mineral resources exploration and evaluation activity and does not apply to costs incurred:

- for mineral resources prospecting and evaluation, like for instance the money spent before the entity was granted the legal right to explore a particular resource; or
- after the technical feasibility and commercial viability of the extraction of that particular mineral resource have been proven.

Extractive industry activities generally follow a similar pattern (pre-exploration, exploration, development, production and area restoration)²¹⁴ and they bear the same risks and uncertainties, namely: the risk of not finding any reserves; the risk of non-development; geological uncertainties; extraction efficiency uncertainty; process efficiency uncertainty; price uncertainty, etc. Therefore, extractive industry entities have set separate accounting policies for expenditure related to²¹⁵:

- the pre-exploration activity;
- the mineral resources exploration and evaluation activity;
- the development activity.

In practice, there are often no separate accounting policies for these activities. For instance, no clear distinction is made between the pre-license and license costs in the crude oil and gas industry and the same accounting policy is usually applied to all the production-related costs. IFRS 6 adoption revealed the need to reconsider the accounting tackling of pre-exploration, and exploration and evaluation costs²¹⁶.

The entity will rely on a professional reasoning when applying accounting policies in order to obtain relevant and reliable information, and if the relevance and reliability of this information cannot be supported by IAS 8, then national standards will apply to exploration and evaluation costs. Resorting to reasonable estimations is a

²¹⁴ KPMG, *First Impressions: IFRS 6 Exploration for and Evaluation of Mineral Resources*, 2005, <http://www.kpmg.ca/en/industries/enr/mining/documents/2005FirstImpressionsIFRS6.pdf>, pp.18-30

²¹⁵ IASC, *Extractive industries*, Issues Paper, November 2001, pp.121-125

²¹⁶ According to FAS 19 and FAS 25, investments in the oil and gas industry are accounted for as follows:

- the geological prospecting costs and the costs related to the investments necessary upon the abandonment of activity on little development estates will be recorded as expenditure at the time of their contracting;
- the costs related to exploration drilling and tests designed to determine the level of reserves will be recorded as current expenditure when the reserves are not confirmed;
- the costs incurred for obtaining prospecting, exploration and operation licenses, and for drilling in search of new reserves, with positive results, will be recorded under fixed assets;
- the fixed assets for the exploration activity will be amortized depending on the hydrocarbon reserve;
- the fixed assets will be tested periodically in order to set their depreciation, and if depreciation occurred, it should be recorded.

component of financial statement drafting and it does not impede upon their reliability. If the circumstances on which a forecast was based have changed or if new information has arisen, it may also be necessary to change that forecast. By definition, the changing of a forecast does not influence any of the previous financial years and it is not considered a correction of an error. Therefore, the changing of a forecast has effects on the current financial year and possibly on future financial years. Nevertheless, to the extent a change of an accounting forecast leads to assets and liabilities variations or refers to an equity component, this should be recorded by adjusting the accounting value of that asset, liability or equity component, at the time of occurrence of the change in question. If a distinction between a change of method and a change of forecast is difficult to make, then that change is considered a change of forecast, and the financial statements notes should include information on the effect on value of the forecast changes on the earnings of the current financial year and they should state whether these changes will impact on future financial years.

The impact of IFRS 6 adoption by the Premier Oil Company in 2004 consisted of the following changes²¹⁷:

- a 40.6 mil. \$ correction of its operating intangible assets;*
- according to IFRS 6, the pre-license costs should be recorded in the financial year when the expenditure that led to a 3.9 mil. \$ income decrease and to a 2.3 mil. \$ net assets decrease was actually made;*
- the just value correction led to a 30 mil. \$ net assets increase and did not impact the company income;*
- a 21.2 mil. \$ current exploration cost correction (the replacement of the full cost method by the successful efforts method resulted in a 23.9 mil. \$ expenditure correction in Guinea Bissau, Gabon, North Sea and Mauritania). The adoption of this method by the PKP joint venture in Pakistan led to a 2.9 mil. \$ income decrease (a 2.4 mil. \$ amortization cost decrease, a 6.6 mil. \$ exploration cost increase and a 1.3 mil. \$ tax cost reduction) and to a 37.8 mil. \$ net assets decrease.*
- the impact of a 122.8 mil. \$ fixed assets increase led to an 8 mil. \$ amortization cost increase.*

Information presentation

According to IFRS 6.23-25, an entity shall provide the following information on the amounts acknowledged in their financial statements related to the exploration and evaluation activity:

- the accounting policies applied to exploration and evaluation costs, including for exploration and evaluation assets acknowledgement;
- the value of the assets, liabilities, income and expenditure (if the entity records the cash flows using the direct method, it will include the investment and exploration cash flows resulted from mineral resources exploration and evaluation);
- the information related to the exploration and evaluation assets recorded under tangible and intangible assets is shown in accordance with IAS 16 and IAS 38, respectively;
- if it is impossible for the entity to show comparable information for previous periods, it should state this.

In order to have an idea of the information that needs to be included in the annual financial statements related to the exploration and evaluation activity, table no. 2

²¹⁷ <http://www.premieroil.com/>, 10 December 2006

comprises the aspects that need to be considered in this activity and the applicable IAS/IFRS regulations.

**Table no. 2 IAS/IFRS Regulations Applicable to the Mineral Resources
Exploration Activity**

Activity	Standard	Aspects
Pre-exploration activities	General framework IAS 16 <i>Property, Plant and Equipment</i> IAS 38 <i>Intangible Assets</i>	This expenditure is not regulated by IFRS 6. The entities will acknowledge the assets in accordance with the General Framework and other standards regulating these costs. Some costs will be recorded under operating costs.
Exploration and evaluation activities	IFRS 6 <i>Exploration for and Evaluation of Mineral Resources</i> IAS 16 <i>Property, Plant and Equipment</i> IAS 38 <i>Intangible Assets</i>	The expenditure that meets the criteria set by IFRS shall be included in the exploration and evaluation activity, and it shall be recorded under tangible or intangible assets, depending on their nature.
Development costs	IAS 16 <i>Property, Plant and Equipment</i> IAS 38 <i>Intangible Assets</i>	The extraction rights and mineral reserves are not the object of IAS 16. Nevertheless, the standard applies to the equipment and machinery used to develop these assets. IFRS 6 does not apply to the expenditure made after the technical feasibility and commercial vitality have been proven. IAS 38 applies to intangible assets.
Amortization	IAS 16 <i>Property, Plant and Equipment</i> IAS 38 <i>Intangible Assets</i>	The amortization is recorded throughout their operational lifetime using the method that reflects the best the rate at which the entity expects to consume the future economic advantages generated by those assets. The most current method used for tangible assets is the units of production method, whereas the linear method is preferred for intangible assets.
Depreciation	IAS 36 <i>Impairment of Assets</i>	Whenever there are internal or external clues that the assets have suffered depreciation, they will be tested for depreciation according to IAS 36.
Dismantling and location restoration costs	IAS 37 <i>Provisions, Contingent Liabilities and Contingent Assets</i> IAS 16 <i>Property, Plant and Equipment</i> IFRIC 1 <i>Changes in Existing Decommissioning, Restoration and Similar Liabilities</i>	The amount acknowledged for a provision is the best forecast of the expenditure that will be made to extinguish the current liability. When the time effect of money is significant, then the provision will be discounted at the level of the current net value of future expenditure. The dismantling and location restoration costs may be included in the fixed assets costs if they meet the acknowledgement requirements provided by IAS 37. Any change in the evaluation of the liabilities related to location restoration will be dealt with in accordance with the provisions of IFRIC 1.

Conclusion

Many projects and studies have been conducted, both internationally and nationally, in order to harmonize the accounting for mineral resources reserves. Although the definition of prospecting and evaluation assets is clearer and more accurate in the IASB publications than in FAS 69, there are other issues that are still unclear. To these we may add the exceptions of comparative information supply according to IFRS 8. These elements explicitly prove that this is a period of transition, when several methods of bookkeeping and evaluation coexist. Therefore, some fear that

various groups of interest will resort to lobby to impose the standard that is most advantageous for them. For instance, oil industry entities that adopted IFRS 6 may choose to continue to apply their old methods of exploration costs and reserves evaluation (full cost method or successful efforts method). Also, the comparability of the information published may improve if IFRS adopts a set of standards regulating reserve estimation. The successful efforts method seems to be the most accurate according to the IFRS 6 requirements, and IASB agrees, in principle, with this method. Yet, as already stated at the beginning of the paragraph, the work groups are still analyzing these aspects.

REFERENCES

1. Betianu, L. (2008), *Calitate totală în contabilitatea mediului*, Editura Universității “Alexandru Ioan Cuza” Iași
2. Fotache, D., Hurbean, L., Dospinescu, O., Pavaloaia, V. (2010), *Procese organizaționale și integrare informațională*, Universitatii “Al. I. Cuza” Iași
3. IASB (2010), *Extractive Activities*, <http://www.ifrs.org/Current-Projects/IASB-Projects/Extractive-Activities/DPAp10/Documents/DPEExtractiveActivitiesApr10.Pdf>.
4. IASB (2007), *Extractive Activities Research Project*, December, <http://www.iasb.org/NR/rdonlyres/A6AF0296-838D-4217-99B9-77D3A104843C/0/ExtractiveprojectupdateSept07.pdf>
5. IASC (2001), *Extractive Industries*, Issues Paper, November 2001
6. KPMG (2007), *Assessing the Impact Adoption of IFRS 6: Exploration for and Evaluation of Mineral Resources by Oil & Gas Companies*, http://www.kpmg.ca/en/industries/enr/oil/documents/306-499AssessingtheImpact_internationalAccessible.pdf
7. KPMG(2005), *First Impressions: IFRS 6 Exploration for and Evaluation of Mineral Resources*, <http://www.kpmg.ca/en/industries/enr/mining/documents/2005First Impressions IFRS6.pdf>
8. Mardiros, D. N., Dicu, R.M. (2011), *Human capital performance ratios in an emergent economy. The case of top telecommunications firms in Romania*, *Anale. Seria Științe Economice*. Timișoara, vol. XVII
9. SORP - Statement of Recommended Practice,(2001), *Accounting for Oil and Gas Exploration, Development, Production and Decommissioning Activities*, June
10. <http://www.iasplus.com/agenda/extract2.html>
11. <http://www.premieroil.com/>