**Towards a solution to the variety in accounting practices of extractive firms under IFRS**

**ABSTRACT**

Accounting for exploration and evaluation (E&E) costs is one of the last major issues to remain largely unregulated by IFRS, even though extractive firms are an important part of several big stock markets. Under a temporary permissive standard (IFRS 6), which has been in place since 2004, firms use a wide range of accounting policies for E&E costs, thus undermining comparability. We review the IFRS annual reports of a large number of firms, looking for different policies. We identify many distinguishable methods of accounting. Along with this, we discover that disclosures are often confusing, partly because of the lack of definitions in IFRS 6. To aid insight into this complexity, we prepare a classification of these methods and give real examples of each. We then assess the methods in the context of IFRS 6 and other relevant parts of IFRS. We find that nearly all the methods comply with IFRS. This leads us to a proposal for narrowing the variety of practice by withdrawing IFRS 6, and putting E&E costs within the scope of IAS 38 (*Intangible Assets*). As part of this, IAS 38 could be further revised to extend the scope of capitalisation of other development costs, thereby addressing one of the criticisms of current reporting practice and bringing IAS 38 more into line with the latest version of the *Conceptual Framework*.

**Keywords**: extractive industry accounting; IFRS 6; oil & gas accounting; mining accounting; international accounting policy choice; intangible assets

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# 1. Introduction

Under International Financial Reporting Standards (IFRS), extractive firms are subject to the normal IFRS requirements for most issues, such as buildings, machinery, financial instruments and pension liabilities. However, the key issue of accounting for exploration and evaluation (E&E) costs is covered instead by IFRS 6, which was intended to be temporary when issued in 2004. While waiting for a standard to replace IFRS 6, extractive firms have a largely free hand in choosing their E&E policies.

In the run-up to widespread adoption of IFRS in 2005, it was necessary for the International Accounting Standards Board (IASB) to issue temporary standards on two topics: IFRS 4 (*Insurance Contracts*) and IFRS 6 (*Exploration for and Evaluation of Mineral Resources*). The basic purpose of these standards was to provide temporary exemption from the requirements of its other standards (which might otherwise have required changes to established practices) while the IASB considered long-term solutions. A similar effect was achieved for another topic (business combinations under common control, BCUCC) by leaving it outside of the scope of the relevant standard: IFRS 3 (*Business Combinations*). Later, after more countries adopted IFRS, a further topic was treated in a similar way: IFRS 14 (*Regulatory Deferral Accounts*).

In the case of IFRS 4, the solution is IFRS 17 (issued in 2017). In the case of IFRS 14, an Exposure Draft on replacing it was issued in 2021.[[1]](#footnote-1) On BCUCC, a Discussion Paper was issued in 2020.[[2]](#footnote-2) By contrast, although a Discussion Paper about replacing IFRS 6 on E&E costs was issued in 2010 (Brady et al. 2010), this was not pursued. Furthermore, the extractive sector is of great importance in several countries. For example, extractive firms make up 49% of Canadian, 40% of Australian, and 10% of UK listed firms.[[3]](#footnote-3) Thus, the treatment of E&E costs could be seen as the most important outstanding issue on which no formal consultations are in progress.

As with accounting for intangibles, the central matter is how much E&E cost to capitalise. As for some research and development (R&D) projects, the risks of E&E projects are large, the time-scale before appraisal long, and the potential rewards much greater than the costs. At one extreme, firms could expense everything, on the grounds of the uncertainty of future cash inflows. At the other extreme, firms could capitalise (or hold in suspense) the ‘full cost’ until appraisal evidence suggests that the costs will not be covered by future cash inflows. In between, there can be many methods of partial capitalisation. These methods can vary in two dimensions: which type of costs to capitalise (for example, should capitalisation only start when a project’s success is assessed as probable, thereby excluding initial exploration costs?), and how wide a pool to use for appraising the evidence (for example, a successful effort such as a mine, or a successful country?). Three labels commonly referred to by firms to identify the treatment of E&E costs are ‘full cost’, ‘successful efforts’ and ‘area of interest’. However, IFRS 6 does not use or define any of these terms or propose any method of accounting for E&E costs.

The size of E&E costs is significant in both absolute and relative terms. For example, BP’s 2019 financial statements show capitalised E&E costs of US$14,091 million, which represent 4.8% of total assets. The firm capitalised US$1,268 million during the year, which represents 79.2% of its total E&E expenditure during the year.[[4]](#footnote-4) BP is one of the largest integrated oil & gas firms and E&E activities are just one part of their business. In contrast, E&E activities dominate the balance sheet of Strike Energy (an Australian oil & gas exploration firm): its A$114 million of capitalised E&E costs in 2018/19 comprised 89.5% of total assets.[[5]](#footnote-5) Additionally, impairments of capitalised E&E costs can significantly affect the income statement: during 2020, BP and Strike Energy recognised impairments of US$9,920 million and A$91 million, respectively.[[6]](#footnote-6)

The IASB was expecting[[7]](#footnote-7) that many entities would continue to use their pre-IFRS policies for E&E costs. The policies would be based on national requirements or custom and influenced by managements’ various incentives (Ball, 2016). Thus, much of any international variety of practices under IFRS 6 would likely not be driven by underlying economic differences. Given that the numbers related to E&E are significant, the variety of practices strikes at one of the core purposes of IFRS: to reduce variety in order to improve comparability.[[8]](#footnote-8) The IASB added extractive industries as one of four topics in its ‘research pipeline’, hoping to start work before 2021 (IASB 2016, p.31). In 2018, the topic was activated as part of the IASB’s formal research programme. This paper is designed to contribute to the debate on policy making on this major accounting topic.

One approach to replacing IFRS 6 would be merely to abolish it, and let E&E costs fall under IAS 16 (*Property, Plant and Equipment*) or IAS 38 (*Intangible Assets*). However, IAS 38 has itself been criticised for over-restricting the capitalisation of intangibles, such that balance sheets have become increasingly irrelevant by failing to record important assets (e.g. Amir and Lev, 1996). We see a possibility of ameliorating this while addressing the replacement for IFRS 6.

Section 2 briefly examines the relevant literature, both regulatory and academic. In Section 3, we outline the wide range of accounting policies that could be used by extractive firms for E&E costs. To help with this, we review the policies disclosed by firms using IFRS, and then prepare a classification of those policies by degrees of conservatism. In Section 4, we analyse these policies to assess whether they all comply with IFRS 6, concluding that most do. Section 5 provides examples of poor explanations of policies by firms. Section 6 proposes a solution for the replacement of IFRS 6 which simultaneously responds to the criticisms of IAS 38. Section 7 concludes. Thus, this paper contributes by adding a way of understanding the great variety of methods of accounting for E&E costs, by analysing the issue as standard-setters might (in the context of the recent *Conceptual Framework*), and by proposing how the diversity can be reduced in order to promote clarity and comparability.

# 2. Literature

There is a large body of literature related to the developments on oil & gas accounting which occurred in the USA in the 1970s (e.g. Deakin 1989; Gorton 1991; Zeff 2007; Cortese 2011). The literature examines the politics of standard-setting, including discussion of why the original proposal by the FASB (1977) to require the conservative ‘successful efforts’ method was overturned by the Securities and Exchange Commission (SEC), such that extensive capitalisation under the ‘full cost’ method is now also allowed in the US. These and other methods are outlined in Section 3. The issue was clearly of great importance to oil & gas firms. Deakin (1989, p.139) reports that 51 full-cost firms lobbied the FASB in favour of the method, and 50 firms participated in an appeal to the SEC against the FASB. The three-sided battle of the 1970s between the SEC, the FASB and the firms continued with the SEC proposing ‘reserve recognition accounting’ whereby proven reserves would be shown at current value, with changes in value included in income (Zeff 2007, p.58). This was opposed by the firms; and the SEC then asked the FASB to develop requirements for note disclosures about the quantity and value of reserves.[[9]](#footnote-9)

Luther (1996) studied the development of accounting requirements for the extractive industry in five English-speaking countries, concluding that regulation was permissive in all cases. In the UK, a *Statement of Recommended Practice* (SORP; latest edition: OIAC 2001) set out versions of the full cost and successful efforts methods, though slightly differently defined from those under US generally accepted accounting principles (US GAAP), as will be explained in Section 3. From the 1970s, Australian standards (such as AAS 7 and then AASB 1022)[[10]](#footnote-10) had developed an approach which was intermediate in conservatism between the two US methods, involving ‘areas of interest’ (see a definition in Appendix A). The IASB’s standard-setting process leading to the highly permissive IFRS 6 has also been studied (e.g. by Cortese et al. 2010). Again, there was extensive lobbying, which suggests that E&E policy choice is important to extractive firms.

Further relevant literature from the standard-setters includes the two papers which were not taken forward: a ‘Summary of Issues’ from a steering committee of the International Accounting Standards Committee (IASC 2000) and a discussion paper from the IASB (Brady et al. 2010). The tentative conclusions of IASC (2000, pp.5-7) include that: (i) a standard on E&E costs should cover both mining and oil & gas, (ii) although disclosures about reserves are important, the balance sheet should be based on historical costs, (iii) pre-acquisition costs should be expensed, (iv) a method ‘more consistent’ with successful efforts should be adopted, with accumulation by geological units, (v) E&E costs should initially be capitalised pending appraisal of discovered reserves, and (vi) IAS 36 (*Impairment of Assets*) should apply except to the costs pending appraisal.

The 2010 discussion paper (DP) agreed with points (i) to (iii) above. The DP proposed that the recognition of assets should be based on legal rights acquired, but that the costs of information obtained from E&E activities could be recognised as part of this asset (Brady et al. 2010, para.s 3.33/34). This would involve more capitalisation than under the successful efforts method. The DP then discussed the level of aggregation at which assets should be recognised, what the *Conceptual Framework* calls the ‘unit of account’.[[11]](#footnote-11) The proposal was that an acquired right (or related set of rights) should be the initial unit of account but that this should later be narrowed to a separate exploration programme, resulting in a unit of account which is a single geological structure in a single jurisdiction (para. 3.54).

Because of the lack of any recent regulatory change in extractive accounting in US GAAP or IFRS, there has been little recent published academic research directly related to E&E policies. At an IASB research conference in 2018, a literature review on extractives (Gray et al. 2019) showed that there has been some literature on sustainability accounting but that recent published research on accounting for E&E costs is rare.

The closest papers to our interests are those by Abdo (2016) and Power et al. (2017). Abdo (p.347) reports that ‘IFRS 6 allows the use of two alternative accounting methods: the successful efforts (SE) and full costing (FC) methods’. Taken literally, this is not the case because IFRS 6 does not mention either method, and it would allow many more than two methods, as we will explain. Perhaps Abdo meant that IFRS 6 allows various methods, including the US methods of successful efforts and full cost. However, this is also not the case because (as we will explain) the US full cost method is one of the few methods found in practice which does *not* comply with IFRS 6. Power et al. (p.548) report that the IFRS 6 permits ‘firms to continue to use the accounting policy for exploration expenditure that was in use prior to the implementation of the standard’. While this is true, it is misleading because it implies that there is ‘grandfathering’ of previous policies, whereas IFRS 6 is more permissive than that, and allows choice irrespective of previous policies used before adoption of IFRS. These two papers also provide data on policy choice under IFRS 6, finding that most extractive firms report the use of the successful efforts method. These are not systematic international surveys but mainly deal with London-listed firms, so they cannot tell us reliably about any international diversity of practice. However, there is a small amount of dated evidence of a country pattern in the treatment by mining firms of E&E costs (KPMG 2006, Table 2.4).

Another relevant strand of literature concerns the limited recognition of intangible assets under IFRS or, even more so, under US GAAP. A large amount of literature discusses the importance of intangibles and whether it would be useful to include more of them in balance sheets. This is summarised by Basu and Waymire (2008), Skinner (2008) and Wyatt (2008). For example, Amir and Lev (1996) suggest that conventional accounting for intangibles is inadequate, particularly for fast-growing firms in emerging industries. Gelb (2002) finds that firms increase their voluntary disclosures to make up for the lack of recognition of intangibles in balance sheets. Amir et al. (2003) find that analysts try to compensate for inadequate reporting on intangibles, and succeed to some extent. However, Penman (2009) points out that users can gain information on intangibles from the income statement.

# 3. A classification of E&E accounting policies by degree of conservatism

From the above, it is clear that there are many potential treatments of E&E costs. As in any field, it can be useful to prepare a classification of elements. We began this by reading the accounting policies of a large sample of firms, observing for each firm the scope of costs deferred and the size of the impairment pool. Appendix B provides information on the sample of firms investigated. Table 1 gives examples of each of the policies discussed below, drawn from IFRS annual reports, mostly of 2017/18. These accounting policies remain fairly stable over time. We find no changes when comparing the 2017/18 policies with those in the latest[[12]](#footnote-12) available annual reports (mostly the 2020 reports).

One approach to drawing up a classification of these various policies for E&E costs is to rank them by degree of conservatism, by which we mean treating costs as expenses more quickly.[[13]](#footnote-13) Appendix A contains an extract from IFRS 6, listing various types of E&E cost. Possible policies vary from full expensing of all E&E costs (even of acquisitions) to initial capitalisation of all costs with later impairment testing. We are not suggesting that the IASB does, or should, make decisions on the basis of degrees of conservatism. However, we find this a useful way to classify the large number of methods found in practice. Figure 1 shows our classification, based on the range of costs deferred and the extent of pooling for the assessment of viability. Theoretically, many other combinations of cost-scope and impairment pool could exist,[[14]](#footnote-14) but this set is sufficient to show the range of possibilities and to exhaust those policies which we found in our review of annual reports.

Method 1 in Figure 1 is the most conservative as it expenses all E&E costs. Method 2 capitalises acquisitions only, and Method 3 capitalises only those costs incurred after production is assessed as viable. The remaining methods all involve the deferral of costs but they vary in the range of costs deferred and by the scope of the appraisal of viability, the unit of account (see Gray et al. 2019, pp.50-52). In the past, an alternative to deferral had been initially to expense all costs but later to capitalise some of the previously expensed costs by restating financial statements (see FASB 1977, para. 115). We did not find such a policy in our survey.

Method 4 is the most conservative of the deferral methods, having the narrowest range of deferred costs and a narrow scope of appraisal for viability. This is the ‘successful efforts’ method in terms of US GAAP.[[15]](#footnote-15) Under this method, pre-licence costs and geological and geophysical (G&G) exploration costs are expensed, but drilling and evaluation costs are deferred, pending determination of proved reserves and an impairment test by property or field.[[16]](#footnote-16) The former[[17]](#footnote-17) UK version of the successful efforts method was less conservative, in that it expanded the deferral to pre-licence and G&G costs (OIAC 2001, para. 50), so it does not fit any of our Methods, and we did not find it in IFRS practice. Method 5 uses the wider impairment pool of a geological area, and thus does not fully fit the US definition of ‘successful efforts’.

Methods 6 to 10 of Figure 1 defer all but pre-licence costs. These methods vary by the size of the pool for the testing of impairment: project, ‘geological area’, country, segment or the whole E&E operation. These deferral methods (most commonly Method 7) are called ‘area of interest’ by some IFRS firms, particularly Australian firms. As noted earlier, like ‘successful efforts’ and ‘full cost’, this term is not defined in IFRS 6. However, the Australian version of IFRS 6 (i.e. AASB 6) imported a similar definition of ‘area of interest’ to that found in pre-IFRS Australian GAAP, related to geological area (see our Appendix A). We also found firms which mentioned both successful efforts and area of interest, for example:

Exploration and evaluation expenditure in respect of each area of interest is accounted for using the successful efforts method of accounting. (Buru Energy, 2017 Annual Report, p.44)

Lastly, Method 11 uses the widest range of capitalised costs and the widest impairment pool. This is the ‘full cost’ method of US GAAP, as defined by Regulation S-X (Rule 4-10). Under this method, all E&E costs are capitalised, including even those incurred before obtaining legal rights. The costs are accumulated in country-by-country pools, and then subjected to an annual ‘cost center ceiling test’.[[18]](#footnote-18) This method can therefore be seen more as conventional capitalisation than as the deferral of costs. The UK version of ‘full cost’ allowed more flexibility on cost pools (OIAC 2001, para. 46).

# 4. Which methods comply with IFRS?

Before 2004, no requirements in IFRS specifically applied to E&E costs. With the large-scale adoptions of IFRS in 2005, many firms with E&E would therefore have been required by IAS 8 (*Accounting Policies, Changes in Accounting Estimates and Errors*, paras. 11 and 12) to develop policies for E&E which fitted with the other IFRS standards and which were consistent with the *Conceptual Framework’s* definitions and criteria on recognition and measurement. Therefore, IFRS 6 was issued in 2004, for periods beginning on or after 1 January 2006 but with early application ‘encouraged’ (para. 26). Its main purpose was to exempt firms from having to develop policies under IAS 8, while the IASB worked towards a full standard on E&E. The decision to exempt entities from the requirements of IAS 8 was controversial, with four out of 14 members of the IASB dissenting and presciently fearing that the ‘temporary exemption’[[19]](#footnote-19) might ‘remain in place for some time’,[[20]](#footnote-20) though perhaps not foreseeing decades rather than years.

Without IFRS 6’s exemption, application of IAS 8 would imply consideration of IAS 38 (*Intangible Assets*) and particularly its requirements on R&D (see Appendix A). The costs of R&D projects or of E&E projects might be seen to fall into four stages, as in Table 2. There could be debate about thedividing lines. For example, it could be argued that exploratory drilling is a type of research.However, in our view, such drilling falls outside of research because it is related to hoped-forcommercial exploitation. For both R&D and E&E projects, there can be related tangible assets, such as laboratories or oil rigs. These are covered by IAS 16.

Under IAS 38, all the costs of stages A and B of Table 2 are expensed, and cannot later be capitalised (para. 71). Even for ultimately successful projects, this means that sometimes very little is capitalised. For example, in the pharmaceutical industry, a firm could be searching for years to find a cure for a devastating virus and might eventually develop an enormously valuable new drug. The firm would only start capitalising the costs incurred from very near the end of the project ‘when a regulatory filing has been made in a major market and approval is considered highly probable’ (to take the example of the policy of GlaxoSmithKline, in its 2020 Annual Report, p.160). These words are GlaxoSmithKline’s interpretation of the six criteria for capitalisation found in IAS 38 (para. 57; see our Appendix A). Method 3 in Figure 1 involves applying such an approach to E&E costs.

However, Methods 4 to 10 are not consistent with IAS 38 because they involve deferring costs followed by, in effect, retrospective confirmation of capitalisation. As one US firm puts it, even the rather conservative well-by-well successful efforts method (a strict version of Method 4) means that exploration costs ‘are capitalized, or “suspended,” on the balance sheet pending further evaluation’ (ConocoPhillips, 2020 Annual Report, p.92).

IFRS 6’s scope is limited to those E&E costs incurred *from* the date of obtaining legal rights for exploration of ‘a specific area’ *until* the date that feasibility and viability of extraction are ‘demonstrable’ (para. 5). Therefore, any costs incurred *before* obtaining legal rights presumably fall into IAS 38 which suggests that they should be expensed (IFRS 6, para. BC13). The cost of acquiring legal rights would normally be capitalised under IFRS.[[21]](#footnote-21) However, they are specifically included within the scope of IFRS 6 (para. 9), so they are covered by the general exemption from the other standards including aspects of IAS 8. This means that cost of E&E acquisitions can either be expensed or capitalised. These are, respectively, Methods 1 or 2 in Figure 1, for firms which expense all other costs. One firm[[22]](#footnote-22) gave an explanation for the extreme conservatism of Method 1’s expensing of acquisitions: ‘Such properties may be subject to prior agreements or transfers and title may be affected by undetected defects’.

Next in the extractive process are the E&E costs incurred after obtaining legal rights, which are also covered by IFRS 6 and discussed above. After that, moving outside of IFRS 6 again, we get to the costs incurred after viability is demonstrated, which are called ‘development’ in the context of extractive activities. However, in terms of IAS 38 these costs are not the full range of ‘development’ but only the later parts (Stage C of Table 2). They would therefore generally be capitalised under IAS 38, as discussed above (IFRS 6, BC27). Thus, there is a terminological problem here: for extractive activities, Stage B is called ‘exploration and evaluation’ (which is covered by IFRS 6) and is importantly distinguished from Stage C’s ‘development’ (which is not covered by IFRS 6), whereas for R&D both Stages B and C fit into IAS 38’s wider concept of ‘development’.

In addition to its exemptions, IFRS 6 contains some specific requirements for E&E. First, although IAS 36 (*Impairment of Assets*) applies to E&E assets, IFRS 6’s list of indicators of impairment (para. 20) are specific to E&E, and IFRS 6 allows more aggregation of such assets for impairment testing (para. 21 and BC46). Secondly, there is no exemption from IAS 37 (*Provisions, Contingent Liabilities and Contingent Assets*); and IFRS 6 confirms that IAS 37 applies in full to E&E activities, such as obligations to restore.

Given the above analysis, all of the great range of policies outlined in Figure 1 seem acceptable under IFRS except for capitalisation of pre-rights costs under Method 11 (the US ‘full cost’ method), for reasons discussed above.[[23]](#footnote-23) Nevertheless, we were able to find two Italian firms[[24]](#footnote-24) which had capitalised pre-rights costs under IFRS in recent years, both with Ernst & Young as auditors. BDO (2013, p.9) suggest that the full cost method is ‘not consistent with the requirements of IFRS’. We agree that this is true for the US full cost method and the former UK method, but there is no internationally agreed definition of ‘full cost’. Indeed, some IFRS firms state that they use ‘full cost’.[[25]](#footnote-25) One UK firm[[26]](#footnote-26) (with BDO as its auditor) refers to using the ‘modified full cost method’ so that it complies with IFRS 6. In terms of our classification, these firms used Method 9. Incidentally, the UK’s former method called successful efforts would also not comply with IFRS because it involved capitalising pre-licence costs.

A detail concerns whether borrowing costs should be included in any ultimate capitalisation of those E&E costs incurred before viability is established. IAS 23 (*Borrowing Costs*) would not allow that because it requires future inflows from capitalised costs to be probable (para. 9). However, one could argue that IFRS 6’s exemptions override IAS 23. We found firms in the same country (e.g. Canada) that did capitalise (e.g. MEG Energy, see 2017 Annual Report, p.84) and firms that did not (e.g. Crown Point Energy, see 2017 Consolidated Financial Statements, p.11). In US GAAP, both the successful efforts method and the full cost method require capitalisation of borrowing costs.[[27]](#footnote-27)

# 5. Examples of poor explanations of policy

Because IFRS 6 contains no definitions or discussion of the various possible treatments of E&E costs, the policy notes of many extractive firms are difficult to read and to compare. Table 3 contains 10 examples of confusing notes. These could be divided into four types, with some firms exhibiting more than one: (i) conflation of ‘successful efforts’ and ‘area of interest’ (Great Western Exploration, Horizon Oil, Oilex, and Santos); (ii) confusion of E&E with development costs (Alamos Gold, Antofagasta, and North American Palladium); (iii) stating that E&E is expensed when actually it is initially held in suspense (Merlin Diamonds, Oilex, and Santos), and (iv) Australian firms or auditors being confused about the labels of accounting standards because the Australian version of IFRS has a different numbering system from the original (Oil Search and Range Resources).

The great variety of practice (discussed in Section 3 and illustrated in Table 1) plus the common occurrence of confusing notes (discussed in this section and illustrated in Table 3) demonstrate the importance of considering reform of IFRS 6, to which we now turn.

# 6. Towards an IFRS solution for E&E accounting

When identifying appropriate accounting policies, the standard-setters (or firms using IAS 8) should begin by considering the relevance and faithful representation of the information that would be produced under the competing possible policies (para. 2.4 of the IASB’s *Conceptual Framework*). However, as we will explain, in our view, direct appeal to these high-level qualities is unlikely to help much in choosing E&E policies. Instead, policy-making is more likely to be effective by considering these qualities indirectly, via the definitions (of assets and liabilities) and the criteria for recognition and measurement, which are themselves based on the high-level qualities. One reason for thinking that the high-level qualities might not be directly helpful here is that IFRS 6 (para. 6, referring to IAS 8, para. 10) requires entities to choose E&E policies which give relevant and representationally faithful information, and yet a very wide range of policies have resulted. These are accepted by auditors and by stock-market regulators, suggesting that a wide range of policies can satisfy the criteria.

Our second reason for doubting the usefulness of direct appeal to the high-level qualities is that previous IASC/IASB papers on E&E costs have not thereby been led to clear conclusions on policy choice. IASC (2000) says that the standard-setters will consider those qualities (p.4) but does not itself discuss them when presenting its tentative views. Brady et al. (2010, pp.71-101) carefully and lengthily use the high-level qualities to discuss measurement at cost compared to fair value, but cannot arrive at a firm conclusion (p.100). For example, historical cost can faithfully represent cost, and fair value can faithfully represent current value. However, relevance is stressed in the discussion of potentially useful disclosures (e.g. Brady et al. 2010, p.11 and para.s 1.23 and 5.16).

Instead, the motivation of IASC (2000, p.4) is framed in terms of reducing diversity, aiming at the *Framework’s* ‘enhancing quality’ of comparability. Similarly, in the IASB’s recent discussions about whether to replace IFRS 6, it is the diversity of practices (rather than the practices being irrelevant or unfaithful) which is mentioned (e.g. IASB 2021a, para. 6). The same applies to the other analogous project, on insurance contracts: the replacement of the temporary IFRS 4 with IFRS 17. The IASB explains (IFRS 17, para. BC1) that this was motivated by the need to reduce diversity in order to improve comparability. In this journal, a current board member of the IASB focuses on comparability as a motivation for international standard-setting (Tarca 2020).

Our proposal below is designed to fit into the IASB’s existing corpus of standards (as discussed in Section 4) and it is based on consideration of comparability and the *Framework’s* definitions and recognition criteria. As mentioned in Section 2, there has been much criticism of conventional financial reporting for increasingly failing to account for economic reality. In particular, the limited recognition of intangibles is seen as leading to a widening gap between book values and stock market values. Contributing to this is the lack of capitalisation of the costs of apparently successful non-extractive development projects at Stage B, in terms of Table 2. It would now be easier than it was when IAS 38 was written for the IASB to widen the scope of capitalisation, because the *Conceptual Framework* of 2018 has widened the definition of ‘asset’ to include those resources with the *potential* to produce benefits. Also, as Gray et al. (2019, p.54) point out, the new *Framework* has also removed the recognition threshold of ‘probable’ inflows (IASB 2018, para.s 4.14 and 5.12). As noted earlier, the IASB’s DP of 2010 recommended extending the scope of capitalisation (Brady et al. 2010, para.s 3.33/34), and this was before the definition and recognition criteria were widened. The IASB would still consider excluding items with a low probability of inflows (IASB 2018, para.s 5.16/17), and there are indeed major uncertainties in E&E activities (Brady et al. 2010, para. 1.3). However, much E&E activity and non-extractive development activity could lie above the threshold of low probability, especially if decisions on permanent capitalisation are delayed until enough information is available for appraisal.

At the same time, as discussed in Section 2 and illustrated in Table 1, many extractive firms choose policies under IFRS 6 which are less conservative than IAS 38’s requirements on R&D. When drafting IFRS 6, the IASB noted that the inclusion of E&E costs in IAS 38 would have restricted capitalisation (para. BC20). Further, the current policies vary greatly, leading to lack of comparability in a major sector of many economies. It might be possible to solve both issues together, as follows.

A possible route would be to withdraw IFRS 6 and to revise IAS 38 to cover E&E activities. IAS 38 could then be amended to require the retrospective capitalisation of the costs of successful projects in Stage B; that is, to accumulate the costs pending appraisal using the criteria similar to those in the current paragraph 57 (see Appendix A). IAS 38 would then need an explanatory paragraph outlining how the criteria used for appraising the success of E&E fit within paragraph 57.

One approach to testing the viability of the deferred Stage B costs would be to write IAS 38 in terms of a unit of account (impairment pool) at the level of a project (a well/mine or a licence/field). This would correspond to Method 6 in Figure 1. The unit of account should correspond to separate legal rights (or a sub-set of them), separate management and separate cash flows. Our proposal is about half-way along the range of present E&E policies found in practice but involves more capitalisation than present R&D practices.

In our proposed reform of IAS 38, the proposal in the previous paragraph would also apply to the costs of non-extractive development projects, which would respond to one aspect of the criticism of IAS 38. To impose discipline, a time limit on the ‘suspense’ or deferral of E&E or R&D costs might be needed. For example, the UK SORP (para. 56) contained limits of two or three years (depending on circumstances), unless further appraisal was planned. This would also restrict the newly-proposed capitalisation of the Stage B costs of some development projects in some other industries, such as pharmaceuticals.

Some knock-on amendments to IFRS would be needed. First, to avoid confusion, it would be useful to find a term other than ‘development’ for Stage C of extractive projects. Next, IFRS 6’s relief (para. 19) from the full rigour of impairment testing would need to be incorporated into IAS 38 (or IAS 36) for projects which cannot yet be appraised for viability. However, it would not be necessary to carry forward IFRS 6’s flexibility on impairment pools (see Section 4 above), because appraisal would be done at project level. Then, IAS 23 would need amendment to remove the ‘probable’ criterion in this context (see Section 4), so that capitalisation of borrowing costs could fit with that of other costs. As mentioned in Section 1, all other standards apply to extractive activities where appropriate, and this would continue under our approach. On some issues, because the scope of capitalisation would increase, so would the scope for some other standards (such as IAS 37) to apply in the context of E&E assets.

We acknowledge the ambitious nature of our proposal to amend IAS 38 and extent its scope to E&E costs. However, we believe it useful to set out an ultimate objective. If the IASB agrees with some or all of the objective but cannot achieve it quickly, there would be ways of approaching it gradually. For example, IFRS 6 could be amended to require our above proposed approach and to fit as much as possible with the style and logic of IAS 38’s content on R&D. Later, IAS 38 could be amended as above and to include E&E costs.

When drafting a replacement for IFRS 6 (whether or not this involves inserting requirements on E&E costs into IAS 38), an important matter will be the approach to disclosure requirements. The IASB’s (2021b) proposals on ‘Guidance for developing disclosure requirements’ include that a standard should set out disclosure objectives rather than a detailed list of requirements but that suggestions on suitable items would still be useful. When drafting such suggestions on E&E costs or on R&D costs, a useful starting point would be the analysis of objectives and principles of disclosure in Brady et al. (2010, Chapter 4). Increases in note disclosures about reserves and related matters might be useful (as acknowledged but not required by the IASB),[[28]](#footnote-28) and this has been continuing, at national level (e.g. JORC, 2012). Given that energy and mineral prices are highly volatile, users of financial statements might find it more informative to apply the latest available price information to disclosures about physical quantities of reserves, rather than being given information about fair values which is dated by the time it is received. This is a topic which could be further researched.

A more dramatic approach to reforming E&E accounting would be to recognise the fair value of extractive reserves. However, attempts to do this have failed.[[29]](#footnote-29) More generally, the standard-setters have shown no willingness over the last 20 years to introduce greater use of fair value for the subsequent measurement of assets,[[30]](#footnote-30) and the 2018 *Conceptual Framework* acknowledges the long-term nature of the mixed-measurement approach.[[31]](#footnote-31)

# 7. Summary and conclusions

Accounting for E&E costs is not addressed in any detail by IFRS. This is especially important because of the size of the extractive sector in many major stock markets, and because the variety of available practices is enormous under the temporary standard IFRS 6. After examining the annual reports of extractive firms, we found 11 distinguishable methods for the treatment of E&E costs which have been used under IFRS. These include the two methods allowed under US GAAP. We provide examples of the use of all these methods. We then draw up a classification based on two dimensions: the scope of costs deferred, and the size of pool for impairment testing. As in other fields, we believe that the classification helps to bring order to a mass of detail.

We analyse the various methods in terms of the requirements of IFRS 6 and other relevant standards within current IFRS, particularly IAS 38. We conclude that the full range of methods is currently permitted under IFRS except for the US version of the full cost method even though a few IFRS firms have used something like it.

This great degree of permissiveness is *prima facie* likely to damage the comparability of financial reporting in this major sector. It also leads to lack of clarity in policy notes because of no definitions of terms. Thus, we propose an outline of a possible replacement for IFRS 6. As part of this, we recognise the widespread criticism of the treatment of intangibles, whereby much cost that seems to meet the IASB’s definition of an asset is currently expensed. We propose that E&E costs should be put within the scope of a revised IAS 38 that requires deferral of the costs of development until appraisal for viability at the level of a project. In summary, this proposal would withdraw the ‘temporary’ IFRS 6, make E&E practices a consistent part of IFRS, greatly reduce the variety of E&E practices, respond to the criticism that IAS 38 is too conservative on R&D, and bring IAS 38 more into line with the *Conceptual Framework*.

There are several areas for further research. First, we and others have speculated that E&E policy choice is linked to an entity’s domicile. To test this, a large systematic international survey is needed, distinguishing between the mining and oil & gas sub-sectors. Up-to-date research is also needed into the value relevance of the capitalisation of E&E costs and the disclosures on reserves. Additionally, it would be useful to investigate the treatment of E&E and R&D in the context of business combinations to see if the use of fair value for initial measurement works well. This could be helpful to standard-setters if major revisions to IAS 38 are considered.

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# Appendix A. Definitions from accounting standards (quotations in italics)

## From AASB 1022 and AASB 6

Definition of ‘area of interest’ (AASB 1022, para. 06): *an individual geological area which is considered to constitute a favourable environment for the presence of a mineral deposit or an oil or natural gas field, or has been proved to contain such a deposit or field;*

A similar definition can now be found in AASB 6 (para. Aus7.3): *an individual geological area whereby the presence of a mineral deposit or an oil or natural gas field is considered favourable or has been proved to exist.*

## From IFRS 6

Examples of E&E costs (para. 9): *(a) acquisition of rights to explore; (b) topographical, geological, geochemical and geophysical studies; (c) exploratory drilling; (d) trenching; (e) sampling; and (f) activities in relation to evaluating the technical feasibility and commercial viability of extracting a mineral resource.*

## From IAS 38

Research (para. 8): *original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.*

Development (para. 8): *the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use.*

Criteria for capitalisation of development costs (para. 57): *An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following: (a) the technical feasibility of completing the intangible asset so that it will be available for use or sale. (b) its intention to complete the intangible asset and use or sell it. (c) its ability to use or sell the intangible asset. (d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset. (e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset. (f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.*

# Appendix B. Sample of firms investigated

To select a sample for our investigation, we first identified firms which satisfied all the following criteria: (1) extractive firm (see next sentence); (2) allocated by Worldscope to one of the following 15[[32]](#footnote-32) countries/jurisdictions:[[33]](#footnote-33) Australia, Brazil, Canada, China, France, Germany, Hong Kong, Italy, Japan, Russia, South Africa, South Korea, Spain, Switzerland and UK; (3) active in 2017 (i.e. Worldscope contains accounting data); (4) financial statements prepared under IFRS (according to Worldscope); and (5) market capitalisation and total assets available in Worldscope. We identified a firm as extractive if it was classified as such both by Worldcope’s Industry Classification Benchmark (ICB) code (i.e. the code is 0533 or 0537 for oil & gas firms or 1753 to 1779 for mining firms) and by Worldscope’s Standard Industrial Classification (SIC) code (i.e. the primary, secondary or tertiary SIC code is between 1000 and 1499). For Australia, Canada and the UK, we found more than 100 such firms, and therefore selected an initial sample of 100 firms (50 oil & gas firms and 50 mining) from each country. For each of the two industry groups of each of these countries, we selected the 25 largest firms by market capitalisation. We then ranked the remaining firms according to market capitalisation and randomly selected 5 firms from each size quintile. For each of the other countries, we found fewer than 30 firms which satisfied our criteria and therefore selected all available firms (106 firms in total). Therefore, our initial sample comprised 406 firms.

We then downloaded the annual reports of these firms from corporate websites, national filing systems (e.g. SEDAR in Canada) and Bloomberg for the accounting period ending on 31 December 2017 or nearest after. Our initial sample reduced to 313 firms (147 oil & gas firms and 166 mining firms) for the following reasons: (1) missing annual reports; (2) annual reports not available in English; (3) exclusion of firms where an inspection of the annual report shows that they are not extractive firms or do not use IFRS; (4) exclusion of firms where we disagree with Worldscope’s allocation of a firm to a particular country; (5) exclusion of firms which are subsidiaries of other firms included in the sample; and (6) exclusion of duplicate firms (i.e. we deleted Rio Tinto from the Australian sample and BHP Billiton from the UK sample because both firms were in both samples).

To gain further insights, we also downloaded the annual reports of our sample firms for the accounting periods ending on 31 December 2005 or nearest after and 31 December 2011 or nearest after (if available).

# Figure 1. A classification of some possible treatments for E&E costs

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Note: This classification is loosely based on decreasing conservatism, considering two dimensions: the scope of deferred costs and the size of pool for testing impairment.

# Table 1. Examples of policies for E&E costs from IFRS annual reports

|  |  |  |
| --- | --- | --- |
| **Method** | **Policy** | **Example** |
| 1. | Expense all costs related to E&E | ‘The expenditures include acquisition of rights to explore, topographical, geological, geochemical and geophysical studies, exploratory drilling, trenching, sampling, activities in relation to evaluating the technical feasibility and commercial viability of extracting mineral resources. These costs are expensed as incurred.’(Evraz, 2017 Annual Report & Accounts, p.172; UK) |
| 2. | Expense all costs except acquisitions | ‘The exploration and evaluation expenditure accounting policy is to expense expenditure as incurred other than for the capitalisation of acquisition costs.’(Emerald Resources, 2018 Annual Report, p.35; Australia) |
| 3. | Expense exploration, but capitalise costs incurred after an E&E asset is appraised as viable | ‘Expenditure incurred on activities that precede exploration for and evaluation of mineral resources, being all expenditure incurred prior to securing the legal rights to explore an area, is expensed immediately. Expenditure towards in-house exploration for and evaluation of potential mineral reserves for each area of interest is expensed until it is considered probable that future economic benefit will arise through further exploration and subsequent development of the area of interest or, alternatively, by its sale.’(Lonmin, 2018 Annual Report and Accounts, p.127; UK)  |
| 4. | Expense E&E costs except drilling and evaluation, which are deferred until appraised for viability; then expense the deferred costs unless related to a successful project of mine/well or field/license [US ‘successful efforts’ method] |  ‘Oil and natural gas exploration, appraisal and development expenditure is accounted for using the principles of the successful efforts method of accounting […] Exploration licence and leasehold property acquisition costs are capitalized within intangible assets […] Geological and geophysical exploration costs are recognized as an expense as incurred. Costs directly associated with an exploration well are initially capitalized as an intangible asset until the drilling of the well is complete and the results have been evaluated.’(BP, 2017 Annual Report and Form 20-F, p.132; UK) |
| 5. | As 4, but widen the asset tested to geological area | ‘The costs to acquire non-producing oil and gas properties or licences to explore, drill exploratory wells and the costs to evaluate the commercial potential of underlying resources, including related borrowing costs, are initially capitalized as Exploration and Evaluation assets. Certain exploration costs, including geological, geophysical and seismic expenditures and delineation on oil sands properties, are charged to Exploration expense as incurred. […] If an area or exploration well is no longer considered commercially viable, the related capitalized costs are charged to Exploration expense.’(Suncor Energy, 2017 Annual Report, p.87; Canada) |
| 6. | Defer all E&E costs (incurred after obtaining legal rights) until appraised for viability; then expense the deferred costs unless related to a successful project | ‘Exploration and evaluation costs are capitalised on a project-by-project basis, pending determination of the technical feasibility and the commercial viability of the project. In accordance with IFRS 6, ‘Exploration for and Evaluation of Mineral Resources’, the Group allocates costs incurred to cash generating units (CGUs), which are projects, or groups of projects, which share a consistent profile and proximity. […] Capitalised costs include costs directly related to the exploration and evaluation activities in the CGU. […] Costs incurred before the legal rights are obtained to explore an area and costs relating to a relinquished or abandoned licence are recognised in profit or loss.’(Uru Metals, 2018 Annual Report, p.31; South Africa) |
| 7. | As 6, but widen the pool tested to geological area | ‘Exploration and evaluation expenditure in respect of each area of interest is accounted for under the successful efforts method. An area of interest is an individual geological area which is considered to constitute a favourable environment for the presence of hydrocarbon resources or has been proven to contain such resources. Expenditure incurred prior to securing legal rights to explore an area is expensed. Exploration licence acquisition costs relating to established oil and gas exploration areas are capitalised. The costs of drilling exploration wells are initially capitalised pending the results of the well. […] All other exploration and evaluation expenditure, including general administration costs, geological and geophysical costs and new venture expenditure is expensed as incurred, except where:• The expenditure relates to an exploration discovery for which, at balance date, an assessment of the existence or otherwise of economically recoverable reserves is not yet complete; or• The expenditure relates to an area of interest under which it is expected that the expenditure will be recouped through successful development and exploitation, or by sale.’(Oilex, 2018 Annual Report, p.50; Australia)  |
| 8. | As 6, but widen the pool to country | ‘The costs of exploring for and evaluating oil and gas properties, including the costs of acquiring rights to explore, geological and geophysical studies, exploratory drilling and directly related overheads, are capitalised and classified as intangible E&E assets. These costs are directly attributed to regional CGUs for the purposes of impairment testing; UK & Ireland and Africa.’(Serica Energy, 2017 Annual Report & Financial Statements, p.46; UK) |
| 9. | As 6, but widen to segment | ‘Exploration and evaluation costs are capitalised as exploration and evaluation assets on a project by project basis pending determination of the technical feasibility and commercial viability of the project. […] Exploration and evaluation assets are assessed for impairment if (i) sufficient data exists to determine technical feasibility and commercial viability, and (ii) facts and circumstances suggest that the carrying amount exceeds the recoverable amount. For the purposes of impairment testing, exploration and evaluation assets are allocated to cash-generating units consistent with the determination of reportable segments.’(Greenvale Energy, 2018 Annual Report, p.38; Australia) |
| 10.  | As 6, but widen to single pool CGU | ‘Pre-acquisition costs on oil and gas assets are recognised in the Income Statement when incurred. Costs incurred after rights to explore have been obtained, such as geological and geophysical surveys, drilling and commercial appraisal costs and other directly attributable costs of exploration and appraisal including technical and administrative costs, are capitalised as intangible exploration and evaluation (“E&E”) assets. The assessment of what constitutes an individual E&E asset is based on technical criteria but essentially either a single licence area or contiguous licence areas with consistent geological features are designated as individual E&E assets. […] Once active exploration is completed the asset is assessed for impairment. […] The Group’s oil and gas assets are analysed into cash generating units (“CGU”) for impairment review purposes, with E&E asset impairment testing being performed at a grouped CGU level. The current CGU consists of the Group’s whole E&E portfolio.’(Faroe Petroleum, 2017 Annual Report and Accounts, p.89; UK) |
| 11. | Capitalise all E&E costs including those before legal rights are obtained; ceiling test on a country basis [US ‘full cost’ method] | ‘Costs associated with exploratory activities for oil and gas producing properties incurred both before and after the acquisition of mineral rights (such as acquisition of seismic data from third parties, test wells and geophysical surveys) are initially capitalized […].’(Eni, 2011 Annual Report, p.125; Italy)Note: The pooling basis used is not clear. |

Notes: Our examples of policies for E&E costs are drawn from a review of the annual reports of IFRS firms. See Appendix B for information on the sample of firms investigated. We distinguish different policies/methods by considering two dimensions: the scope of deferred costs and the size of pool for testing impairment. Our examples relate to year ends of 31 December 2017 or nearest after. An exception is that this did not produce an example of the US full cost method (or an approximation of it), called Method 11 here. For that we provide an example from 2011.

# Table 2. Stages of expenditure on a successful project

|  |  |  |
| --- | --- | --- |
| **Stage** | **R&D Costs, under IAS 38** | **E&E costs, under IFRS 6** |
| A. | Original and planned investigation for new scientific or technical knowledge [*called* ‘*research’; expensed under this standard*] | - |
| B. | Application of knowledge to new or improved materials, devices, products, processes, systems or services; up to the point of confirming probable future benefits [*called ‘development’; expensed*] | Geological studies; exploratory drilling; evaluating viability [*called* *E&E; some capitalised*] |
| C. | Continued development of a viable project [*called* *‘development’; capitalised*] | Continued work on a viable project [*called ‘development’; capitalised*] |
| D. | Asset available for use [*recognised as other intangible*] | Asset available for use [*called ‘production’; asset transferred to PPE or intangibles*] |

# Table 3. Examples of confusing policy notes

|  |  |  |
| --- | --- | --- |
| **Firm/year** | **Quotation from firm’s Note** | **Our comment** |
| Alamos Gold, 2011 Financial Report, p.12(Canada) | Exploration expenditures on non-producing properties, including drilling and related costs, identified as having development potential, as evidenced by a positive economic analysis of the project, are treated as mine development costs and capitalized. | If the expenditures relate to positively appraised development projects, it is confusing to refer to them as exploration. |
| Antofagasta, 2011 Annual Report and Financial Statements, p.99(UK) | g) Exploration and evaluation expenditure […]Exploration and evaluation are expensed in the year in which it is incurred. When a decision is taken that a mining project is commercially viable (normally when the project has reached the feasibility stage) all further directly attributable pre-production expenditure is capitalised. | Despite its heading, the second sentence of the note is about development costs. |
| Great Western Exploration, 2018 Annual Report, pp.40+45(Australia) | Exploration and evaluation costs are capitalised as exploration and evaluation assets on a project by project basis pending determination of the technical feasibility and commercial viability of the project. (p.40). Acquisition, exploration and evaluation expenditure incurred is accumulated in respect of each identifiable area of interest. These costs are carried forward in respect of an area that has not at balance sheet date reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves […] (p.45) | The first note implies ‘successful efforts’; the second refers to ‘area of interest’. |
| Horizon Oil, 2012 Annual Report, p.52(Australia) | Exploration phase expenditure in respect of each area of interest is accounted for using the successful efforts method of accounting. The successful efforts method requires all exploration phase expenditure to be expensed in the period it is incurred, except the costs of successful wells, the costs of acquiring interests in new exploration assets and predevelopment costs where there is a high degree of probability that the development will go ahead, which are capitalised. | Refers to both ‘area of interest’ and ‘successful efforts’ at the well level. |
| Merlin Diamonds, 2018 Annual Report, p.30(Australia) | Exploration and evaluation expenditure is charged against earnings as incurred and included as part of cash flows from operating activities. […] Accounting for exploration and evaluation expenditures is assessed separately for each ‘area of interest’ to determine whether expenditure is expensed as incurred or capitalised as an asset.  | The first sentence is presumably wrong because it is contradicted by the second. |
| North American Palladium, 2011 Annual Report, p.43(Canada) | Exploration costs relating to properties are charged to earnings in the year in which they are incurred. When it is determined that a mining property can be economically developed as a result of reserve potential, subsequent exploration expenditures are capitalized. | The ‘subsequent exploration expenditures’ are actually ‘development’. |
| Oilex, 2006 Annual Report, p.41(Australia) | Exploration and evaluation expenditure in respect of each area of interest is accounted for using the successful efforts method of accounting. The successful efforts method requires all exploration and evaluation expenditure to be expensed in the period it is incurred, until an economic commercial discovery has been delineated. The costs of drilling exploration wells are initially expensed pending the results of the well. Costs are capitalised where the well does result in the successful discovery of economically recoverable hydrocarbons. | 1. Conflates ‘area of interest’ with ‘successful efforts’.
2. Incorrectly says (twice) that costs are initially expensed rather than being deferred; whereas this has been corrected in the 2018 Annual Report, p.50.
 |
| Oil Search, 2005 Annual Report, p.59(Papua New Guinea but with a CFO and auditors based in Australia) | This change in accounting policy represents a voluntary change under IFRS 8 ‘Accounting Policies, Changes in Accounting Estimates and Errors’ […] | The firm means IAS 8 not IFRS 8. |
| Range Resources, 2012 Annual Report, p.30(Australia) | Range Resources Limited is applying AASB 6 Exploration for and Evaluation of Mineral Resources which is equivalent to AASB 6. | At the end of the sentence, the firm means IFRS 6 not AASB 6. |
| Santos, 2005 Annual Report, p.74(Australia) | Exploration and evaluation expenditure in respect of each area of interest is accounted for using the successful efforts method of accounting. The successful efforts method requires all exploration and evaluation expenditure to be expensed in the period it is incurred, except the costs of successful wells and the costs of acquiring interests in new exploration assets, which are capitalised as intangible exploration and evaluation. The costs of wells are initially capitalised pending the results of the well. An area of interest refers to an individual geological area where the presence of oil or a natural gas field is considered favourable or has been proved to exist, and in most cases will comprise an individual oil or gas field. | 1. Conflates ‘area of interest’ with ‘successful efforts’.
2. The firm would not immediately know whether E&E is successful so the word ‘expensed’ is misleading.
3. The terms change from ‘area’ to ‘wells’ to ‘field’.
 |

1. ED/2021/1: *Regulatory Assets and Regulatory Liabilities*. [↑](#footnote-ref-1)
2. DP/2020/2: *Business Combinations under Common Control*. [↑](#footnote-ref-2)
3. Based on 2017 data from Worldscope on extractive firms with the following Industry Classification Benchmark (ICB) codes: 0533, 0537, 1753, 1755, 1771, 1773, 1775, 1777 and 1779. [↑](#footnote-ref-3)
4. See BP’s 2019 Annual Report and Form 20-F. The capitalised E&E costs are shown as ‘Exploration and appraisal expenditure’ in Note 15 on intangible assets (p.188). Capitalised E&E costs during the year are shown as ‘Additions’ in Note 15. We calculate total E&E expenditure as the sum of (i) capitalised E&E costs during the year (US$1,268 million) and (ii) E&E costs during the year that are immediately expensed (US$333 million, see ‘Other exploration costs’ in Note 8 on p.181). [↑](#footnote-ref-4)
5. See Strike Energy’s 2019 Annual Report. The capitalised E&E costs are shown as ‘Exploration and evaluation assets’ on the face of the balance sheet (p.25). [↑](#footnote-ref-5)
6. See BP’s 2020 Annual Report and Form 20-F (pp.184+191) and Strike Energy’s 2020 Annual Report (p.30). [↑](#footnote-ref-6)
7. IFRS 6, para. BC3. [↑](#footnote-ref-7)
8. IASB’s *Conceptual Framework* of 2018, para. SP1.5 and para. 2.4. [↑](#footnote-ref-8)
9. Leading to SFAS 69 (*Disclosures about Oil and Gas Producing Activities*) of November 1982; now found in *Accounting Standards Codification* (ASC) 932-235-50. [↑](#footnote-ref-9)
10. AASB 1022 (*Accounting for the Extractive Industries*) was issued in 1989 (originally as ASRB 1022). [↑](#footnote-ref-10)
11. IASB (2018), para. 4.48. [↑](#footnote-ref-11)
12. At the time of writing, March 2021. [↑](#footnote-ref-12)
13. By treating more costs as expenses rather than as assets, or by writing off assets (by depreciation or impairment) more quickly. This fits with the focus in Basu (1997) on asymmetric policies, later called ‘conditional conservatism’. [↑](#footnote-ref-13)
14. For example, Method 3 could be sub-divided into different approaches to pooling for impairment tests. [↑](#footnote-ref-14)
15. See ASC 932. [↑](#footnote-ref-15)
16. ASC 932-360-35-8 allows another ‘logical grouping of assets if there is significant shared infrastructure (for example, platform)’. [↑](#footnote-ref-16)
17. The SORP was withdrawn for 2015 onwards. [↑](#footnote-ref-17)
18. See Regulation S-X, Rule 4-10 (c) (4). [↑](#footnote-ref-18)
19. See the heading above para. 6 of IFRS 6. [↑](#footnote-ref-19)
20. IFRS 6, Dissenting Opinions, para.s DO2 and DO4. [↑](#footnote-ref-20)
21. For example, under IAS 38, para.s 25 and 33. [↑](#footnote-ref-21)
22. Donner Metals, 2012 Consolidated Financial Statements, p.10. [↑](#footnote-ref-22)
23. Because of the capitalisation of pre-licence costs and because of the special impairment test. [↑](#footnote-ref-23)
24. Eni in 2005 and 2011, and Gas Plus in 2011. [↑](#footnote-ref-24)
25. For example, Indus Gas, 2018 Annual Report, p.29. [↑](#footnote-ref-25)
26. Cadogan Petroleum, 2017 Annual Financial Report, p.62. [↑](#footnote-ref-26)
27. There are no scope exclusions in ASC 835-20-15-1. [↑](#footnote-ref-27)
28. See BC55 of IFRS 6. [↑](#footnote-ref-28)
29. Reserve recognition accounting was briefly required by the SEC in 1977 to 1978. [↑](#footnote-ref-29)
30. Nobes (2015, Section 2) examines this in detail, showing that the IASB has not introduced ‘subsequent measurement at fair value’ for any new types of asset. Since that date, two standards have been issued. IFRS 16 (*Leases*) requires the cost basis except to achieve consistency with any non-lease assets under IASs 16 and 40. IFRS 17 (*Insurance Contracts*) does not involve the measurement of assets at fair value. [↑](#footnote-ref-30)
31. For example, para. 6.44. [↑](#footnote-ref-31)
32. These are chosen because they have large stock markets and at least some firms which use IFRS. In the case of China, we use annual reports prepared under IFRS (e.g. because the firm is listed in Hong Kong). [↑](#footnote-ref-32)
33. Since we include Hong Kong, ‘jurisdiction’ is more appropriate. However, for brevity, we use ‘country’ hereafter. [↑](#footnote-ref-33)