

International Financial Reporting Standards

A Framework-based approach to teaching accounting property, plant and equipment

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The IASB's *Conceptual Framework*

- *Framework* sets out **agreed concepts** that underlie IFRS financial reporting
 - the **objective** of general purpose financial reporting
 - qualitative characteristics
 - elements of financial statements
 - recognition
 - measurement
 - presentation and disclosure

Other concepts all flow from the objective

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Role of the *Framework*

- IASB uses *Framework* to set standards
 - enhances consistency across standards
 - enhances consistency across time as Board members change
 - provides benchmark for judgments
- IFRS Interpretations Committee uses *Framework* to interpret IFRSs when there is no IFRS requirement
- Preparers use *Framework* to develop accounting policies in the absence of specific standard
 - IAS 8 hierarchy

This workshop demonstrates the role of the *Framework* in IFRS teaching

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Framework-based teaching...

- relates the IFRS requirements being taught to the concepts in the *Conceptual Framework*
- explains why some IFRS requirements do not maximise those concepts (eg application of the cost constraint or inherited requirements)

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Framework-based teaching provides...

- a **cohesive understanding** of IFRSs
 - *Framework* facilitates **consistent and logical formulation** of IFRSs
- a basis for **judgement** in applying IFRSs
 - *Framework* established the concepts that underlie the estimates, judgements and models on which IFRS financial statements are based
- a basis for **continuously updating** IFRS knowledge and IFRS competencies

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Support for *Framework*-based teaching

- IFRS Foundation education initiative works with others to support *Framework*-based teaching
 - create awareness
 - develop material (starting with PPE)
 - hold workshops at academic conferences and elsewhere
 - encourage those certifying accountants to examine their students' ability to make the judgements that are necessary to apply IFRSs

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Range of IFRS classes

7

Can I use *Framework*-based teaching in my IFRS class?

- Yes, the starting point for all IFRS teaching should be the objective of IFRS financial information and the concepts that flow logically from that objective
- However, the extent of IFRS requirements taught are likely to vary by course level and to suit the objectives of the course

Focus on CA/CPA stream students

8

- Can be used at all levels of IFRS classes
- However, this workshop is for CA/CPA stream
- Financial reporting courses at 3 broadly defined stages along the progression to CA/CPA
 - Stage 1: first course
 - Stage 2: course mid-way to qualifying
 - Stage 3: immediately before qualifying
- Stages are broadly defined to take account of different approaches to qualifying CA/CPA's

Why PPE material first?

9

- As jurisdictions implement IFRSs many find that the accounting for PPE is a special challenge (Upton, IASB's Director of International Activities, 2010)
 - IFRS requirements for PPE require many estimates and judgements
 - previous accounting frequently influenced or governed by tax requirements or central government planning
 - even where previous accounting is based on a similar Framework, those requirements often rules-based (eg industry specific guidance)

Reference material: PPE course work & open-book assessment

10

Stage 1	Stage 2	Stage 3
Extracts from <i>Framework</i> + basic IFRS principles from Section 17 of the <i>IFRS for SMEs</i> or IAS 16 (eg, see handout)	<i>A Guide through IFRSs</i> (includes full text of <i>Framework</i> + IFRSs and accompanying material with extensive cross-references and annotations, eg IFRIC agenda decisions) + the <i>IFRS for SMEs</i> and accompanying documents	Stage 2 material + Local GAAP (if any) + main principles in IASB DPs and EDs

Class material: PPE

11

Stage 1	Stage 2	Stage 3
Reference material (previous slide) + notes (eg see handout) + video/web clips + basic tutorials (eg see handout)	Reference material (previous slide) + notes (eg see handout), video/web clips + tutorials + IFRS financial statements + select regulatory decisions + relevant press coverage + main principles in issues being considered by IASB	Reference material (previous slide) + advanced tutorials and integrated case studies + IFRS financial statements + relevant regulatory decisions + relevant press coverage + IASB DPs and EDs and select agenda papers

Teaching steps

12

Accounting for PPE

- Objective
- Identification
- Classification
- Recognition
- Measurement (initial and subsequent)
- Derecognition
- Presentation and disclosure

Relate PPE accounting & reporting to objective & main concepts (pervasive)

13

Stage 1	Stage 2	Stage 3
<p>Explain why relevant and faithfully represented information about PPE (particularly manufacturers and retailers) is useful to the primary user group.</p> <p>Reinforce with class discussion + tutorial.</p> <p>Assess understood.</p>	<p>Stage 1 + (don't limit to manufacturers and retailers, eg include service industry buildings and explain in more detail).</p> <p>Reinforce teaching with class discussion + tutorials.</p> <p>Assess understood.</p>	<p>Reinforce understanding and develop competence in making the judgements that are necessary to account for assets.</p> <p>Some ideas:</p> <ul style="list-style-type: none"> - cross-cutting issues class discussions - advanced tutorials - integrated case studies - GAAP comparisons & improvements.

Objective of financial reporting

14

“Provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity.”

Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans or other forms of credit

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Objective of financial reporting

15

- Primary users
 - provide resources, but cannot demand information
 - common information needs
- Assess the prospects for future net cash inflows
 - buy, sell, hold
 - efficient and effective use of resources

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Fundamental qualitative characteristics

16

- Relevance
 - Predictive value
 - Confirmatory value
 - Materiality, entity-specific
- Faithful representation (replaces reliability)
 - Completeness
 - Neutrality
 - Free from error

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Enhancing Qualitative Characteristics

17

- **Comparability**: like things look alike; different things look different
- **Verifiability**: knowledgeable and independent observers could reach consensus, but not necessarily complete agreement, that a depiction is a faithful representation
- **Timeliness**: having information available to decision-makers in time to be capable of influencing their decisions
- **Understandability**: Classify, characterise, and present information clearly and concisely

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Pervasive constraint

18

- Cost
 - IASB assesses whether the benefits of reporting particular information are likely to justify the costs incurred to provide and use that information.

Note: It is **consistent** with the *Framework* for an IFRS requirement not to maximise the qualitative characteristics of financial information when the costs of doing so would exceed the benefits.

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Identification, classification and recognition

19

- Property, plant and equipment
 - identification
 - classification
 - recognition
- Focusing on stages 1 and 2, linking to stage 3
- Full IFRS and the *IFRS for SMEs*
 - Similar accounting principles

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Elements

20

- | | |
|--|---|
| Asset <ul style="list-style-type: none">• resource controlled by the entity• result of past event• expected inflow of economic benefits | Equity = assets less liabilities |
| Liability <ul style="list-style-type: none">• present obligation• arising from past event• expected outflow of economic benefits | Income <ul style="list-style-type: none">• recognised increase in asset/decrease in liability in current reporting period• that result in increased equity except... |
| | Expense <ul style="list-style-type: none">• recognised decrease in asset/increase in liability in current reporting period• that result in decreased equity except... |

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Stage 1: Identification of PPE

21

- Definition of PPE in IFRS
- PPE are tangible assets
 - a. used in the **production** or **supply** of goods or services, for **rental** to others or **administrative** purposes AND
 - b. expected to be used for **more than one period**
- Examples 1 to 3 of the stage 1 teaching material
 - Step 1: definition of an asset per the Conceptual Framework
 - Step 2: definition of PPE

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Stage 2: Identification of PPE

22

- Definition of PPE in IFRS
- PPE are tangible assets
 - a. used in the **production** or **supply** of goods or services, for **rental** to others or **administrative** purposes AND
 - b. expected to be used for **more than one period**
- Examples 1 and 2 of the stage 2 teaching material
 - Step 1: definition of an asset per the Conceptual Framework
 - Step 2: definition of PPE
 - NOTE: example 2 – scoped out of IAS 16 (exploration equipment)

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Stage 2: Classification of PPE

23

Primary considerations for classification:

- Presentation
 - subclassification
 - **function** within the business—information being provided to users
- Use of judgement
 - ‘portions’ of properties
 - example: portion for rental and other for use in administrative function

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Stage 2: Classification of PPE *continued*

24

Primary considerations for classification *continued*:

- Scope exclusions
 - IFRS 5
 - biological assets (related to agricultural activity)
 - exploration and evaluation assets
 - Mineral rights (eg oil and natural gas)
- Examples 1-8 of the stage 2 teaching material

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Stage 2: Classification of PPE— Examples

25

- Example 1: Cattle and farm implements
- Example 2: Land, trees grown for timber
- Example 3: Guard dogs
- Example 4: Bird breeder
- Example 5: Bird breeding zoo
- Examples 6-8: PPE held for sale
 - examples in IFRS 5

Stage 2: Classification of PPE *continued*

26

Unit of account:

- Example 9 of the stage 2 teaching material
 - use of judgement in the absence of guidance
 - related back to the Framework
 - general purpose of reporting
 - objective of financial information
- Judgement applied based on significance of the individual items

Classification: Unit of account for PPE

27

Stage 1	Stage 2	Stage 3
	<p>IAS 16 does not prescribe the unit of measure for recognition of PPE (an item of PPE) consequently use judgement.</p> <p>Focus on teaching the judgements necessary to identify an item of PPE. Some examples:</p> <ul style="list-style-type: none"> -immaterial items -individually insignificant items (eg moulds, tools & dies?) 	<p>Reinforce understanding and develop competence in identifying the unit of account. Some ideas:</p> <ul style="list-style-type: none"> -cross-cutting issues class discussions -advanced tutorials -integrated case studies -GAAP comparisons & improvements.

Recognition

28

- Accrual basis of accounting
 - recognise element (eg asset) when satisfy definition and recognition criteria
- Recognise item that meets element definition when
 - probable that benefits will flow to/from the entity
 - has cost or value that can measured reliably

Recognition *continued*

29

What does probable mean?

- Its meaning is determined at the standards level. Therefore, inconsistent use across IFRSs
 - IAS 37: more likely than not
 - Could include other uncertainties which would lead to a more complicated process (ie fair value)
- Stage 2 teaching material: Example 11-14

Recognition *continued*

30

- Example 11: Backup generator
- Example 12: Day-to-day servicing
- Example 13: Replacement parts
- Example 14: Major inspections

Recognition of PPE

31

Stage 1	Stage 2	Stage 3
<p>PPE asset recognition principle is from the <i>Framework</i> :</p> <ul style="list-style-type: none"> - probable FEBs associated with the item will flow to the entity - cost of the item can be measured reliably (IAS16.7) <p>Creates awareness of judgements (eg what is material, probable and reliable).</p>	<p>Stage 1 + focus on teaching the judgements necessary to identify PPE. Some egs:</p> <ul style="list-style-type: none"> - immaterial items - backup generator at hospital - day-to-day servicing - replacement parts - major inspections 	<p>Reinforce understanding and develop competence in making the judgements necessary to recognise assets. Some ideas:</p> <ul style="list-style-type: none"> - cross-cutting issues class discussions - advanced tutorials - integrated case studies - GAAP comparisons & improvements.

Measurement of PPE at recognition

32

Stage 1	Stage 2	Stage 3
<p>At initial recognition: cost = cash price equivalent at recognition date. Cost comprises:</p> <ul style="list-style-type: none"> - purchase price - costs directly attributable to bring item to location and condition necessary for it to be capable of operating as intended by mgt. - initial estimate of costs of dismantling and removing and restoring the site. <p>Create awareness of judgements.</p>	<p>Stage 1 + focus on judgements to measure cost. Some egs:</p> <ul style="list-style-type: none"> - self constructed - borrowing costs - dismantling etc - deferred payments - exchange transactions <p>Explain why exceptions:</p> <ul style="list-style-type: none"> - leases (IAS 17) - government grants (IAS 20) 	<p>Reinforce understanding & develop competence in judgements to measure cost. Some ideas:</p> <ul style="list-style-type: none"> - cross-cutting issues class discussions - advanced tutorials - integrated case studies.

Measurement

33

- Measurement is the process of determining the monetary amounts at which the recognised elements are carried.
- IFRS measurements are largely based on estimates, judgements and models.
- The measurement part of the *Framework* is weak and IASB has a project to replace it
- Measurement determined at the standards level. Therefore, inconsistent use across IFRS

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Measurement of PPE

34

- Because measuring PPE requires **significant estimates and judgements**, it is important that students be taught those requirements in a way that prepares them to make those judgements and estimates.

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Measurement concepts

35

- Measurement is the process of determining monetary amounts at which elements are recognised and carried. (¶4.54)
- To a large extent, financial reports are based on estimates, judgements and models rather than exact depictions. The *Framework* establishes the concepts that underlie those estimates, judgements and models (¶OB11)
- IASB guided by **objective** and **qualitative characteristics** when specifying measurements.

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Measurement section of *Framework*

36

- Measurement section of *Framework* is weak—only lists some measurement methods used in practice:
 - historical cost: cash paid or fair value of consideration given
 - current cost: cash that would be paid if acquired now
 - realisable (settlement) value: cash that could be obtained by selling the asset now
 - present value: present discounted value of future net cash inflows that the item is expected to generate
 - market value: listed but not described in *Framework*. For fair value see IFRS 13 *Fair Value Measurements*

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IFRS measurements for some assets

37

- PPE and intangible assets: initial = cost, then
 - cost model (cost-depreciation-impairment) or
 - revaluation model (fair value-depreciation-impairment)
- Investment property: initial = cost, then
 - cost model (cost-depreciation-impairment) or
 - fair value model (fair value through profit or loss)
- Inventories: initial = cost, then
 - lower of cost or net realisable value (entity specific value)
- Biological assets that relates to agricultural activity
 - fair value less costs to sell (if impracticable then cost model)

Explain reasons for different measurements 

Measurement of PPE

38

- Measurement at cost
 - **Stage 1:** cost (recognise and relate with investment analysis); elements of cost (recognise, list, select); awareness of elements with higher J&E (illustrate self-constructed PPE, borrowing costs etc)
 - **Stage 2:** focus on J&E
 - Self-constructed assets
 - Borrowing costs (discussion questions, page 36)
 - Deferred payment (example 16)
 - Decommissioning (example 17)
 - Assets exchange (examples 19 and 22)
 - Business combination (example 21)

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Measurement of PPE after recognition

39

Stage 1	Stage 2	Stage 3
Accounting policy choice: cost model or revaluation model. Which model provides primary users most useful information? Teach the theory and mechanics of depreciation. Reinforce with class discussion + tutorial. Assess understood.	Stage 1 + focus on teaching the judgements necessary to measure PPE after initial recognition. Some examples: - useful life - residual value - depreciation method - for revaluation (fair value if no recent transactions) - for impairment (fair value less costs to sell)	Reinforce understanding and develop competence in making the judgement necessary to measure assets. Some ideas: - cross-cutting issues class discussions - advanced tutorials - integrated case studies.

Measurement after recognition

40

- Choice between cost and revaluation
 - **Stage 1:** recognise the differences between policies; discuss the extent each measurement meets the objective; relate to assets definition and recognise impairment, compare cost and revaluation (awareness)
 - **Stage 2:** compare cost and revaluation; J&E required for revaluation and impairment


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Allocating depreciation: concepts

41

- Information about an entity's financial performance in a period, reflected by changes in economic resources (eg PPE) is useful in assessing the entity's past and future ability to generate net cash inflows (see ¶OB18)
- Expenses are decreases in economic benefits during an accounting period in the form of depletions of assets... (¶4.25)
- Depreciation represents the consumption of the assets service potential in the period.
 - land with an indefinite useful life is not depreciated because its service potential does not reduce with time

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Allocating depreciation: principle

42

- Depreciation is the **systematic allocation** of the **depreciable amount** of an asset over its **useful life** (IAS16.6).
 - essentially a cost allocation technique (IAS16.BC29)
- Systematic allocation (application guidance):
 - **Depreciation method** must closely reflects the pattern in which the asset's future economic benefits are expected to be consumed by the entity.
 - **Unit of measure** for depreciation is different from that for an item of PPE. By depreciating significant parts of an item of PPE separately, depreciation more faithfully represents the consumption of the assets service potential. (IAS16.BC29)

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Allocating depreciation: application guidance (1)

43

- Depreciable amount =
 - cost model: historical cost less **residual value**
 - revaluation model: fair value less **residual value**
- Residual value =
 - amount that the entity would currently obtained from disposal of asset (less estimated disposal costs) if the asset were already of the age and in the condition expected at the end of its **useful life**

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Allocating depreciation: application guidance (2)

44

- Useful life (entity specific) =
 - the period over which the asset is expected to be available for use by the entity; or
 - the number of production or similar units expected to be obtained from the asset by the entity.
- Consequently, depreciation **continues when idle** (if useful life = period) – example 24
- However, depreciation **ceases when classified as held for sale** because IFRS 5 measurement is essentially a process of valuation, rather than allocation (IFRS5.BC29)

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Derecognition of PPE

45

Stage 1	Stage 2	Stage 3
PPE is derecognised: -on disposal, or -when no future economic benefits are expected from its use or disposal (IAS16.67)	Stage 1 + focus on teaching the judgements necessary to determine when to derecognise PPE. For example: -applying the criteria for the sale of goods in IAS 18 to determine when to recognise the sale of an item of PPE (see IAS16.69 and BC34)	Reinforce understanding and develop competence in making the judgements necessary to derecognise assets. Some ideas: -cross-cutting issues class discussions -advanced tutorials -integrated case studies -GAAP comparisons & improvements.

Derecognition of assets

46

- Derecognition of an asset refers to when an asset previously recognised by an entity is removed from the entity's statement of financial position
 - Derecognition requirements are specified at the **standards level**.
 - Derecognition does not necessarily occur when the asset no longer satisfies the conditions specified for its initial recognition (ie derecognition does not necessarily coincide with the loss of control of the asset).

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Derecognition of assets

47

- **Stage 1:** recognise disposal of PPE and conditions in which no future economic benefits expected; discuss revenue x gain (awareness)
- **Stage 2:** analyse and compare different J&E required in
 - Plans to sell PPE (example 26)
 - Abandonment (example 27)
 - Revenue or gain (example 28)

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Presentation and disclosure of PPE

48

Stage 1	Stage 2	Stage 3
<p>Statement of financial position: why present PPE separately from other assets (relate to objective + QCs)?</p> <p>Statement of comprehensive income or notes: why present depreciation separately from other expenses (relate to objective + QCs)?</p> <p>Offsetting: why is gain (or loss) on disposal of PPE presented net?</p>	<p>Stage 1 + focus on teaching the judgements necessary to present and disclose PPE, egs</p> <ul style="list-style-type: none"> - identify (see slide 11) - sub-classify PPE into separate classes (grouping of assets of a similar nature and use in the entity's operations, eg how many classes of land – vacant land, land on which buildings are situated and landfill site?) 	<p>Reinforce understanding and develop competence in presenting assets and related income & expenses. Some ideas:</p> <ul style="list-style-type: none"> - cross-cutting issues class discussions - advanced tutorials - integrated case studies.

Presentation and disclosure

49

- Objective of financial reporting
- Presentation: financial statements portray financial effects of transactions and events by:
 - grouping into broad classes (the elements, eg asset)
 - sub-classify elements (eg assets sub-classified by their nature or function in the business)
- IAS 1
 - application of IFRSs with additional disclosures when necessary results in a fair presentation (faithful representation of transactions, events and conditions)
 - don't offset assets & liabilities or income & expenses

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Stage 3 case study

50

- Stage 3 teaching materials
- **The Open Country Safari Company Case Study**

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Questions or comments?

51

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The Open Country Safari Company Case Study

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This article is a ‘work in process’. It will be revised following feedback and comments from people attending a series of workshops on the Framework-based approach to teaching International Financial Reporting Standards (IFRSs) organised by the IFRS Foundation and others (including the British Accounting and Finance Association (BAFA), the European Accounting Association (EAA) and the International Association for Accounting Education and Research (IAAER)). After revisions, the material will be available as an educational resource on the IFRS website.

Background

Entity A is a manufacturing company listed on the London Stock Exchange. The company has operated successfully in the manufacturing sector for more than twenty years and for many years has prepared its financial statements in accordance with IFRSs. Although Entity A presents its financial statements in British Pounds (£), its functional currency is the Euro (€)—mainly because most of the products it manufactures are sold to customers in the Eurozone countries (including Austria, France, Germany, Ireland, Italy and Spain).

In 20X0 Entity A’s board of directors decide to expand Entity A’s operations into new types of business and into a geographic location in which it currently does not operate—Sub-Saharan Africa. Accordingly, management selects a number of activities in Southern Africa to be carried out as part of a ten-year diversification plan. The company appoints James and Judith Bilkersen to manage its African operations, under the brand name The Open Country Safari Company (Open Safari). The Bilkersens have over fifteen years’ experience in the hospitality industry in Africa and they share a passion for conservation of wildlife and natural habitats.¹ Entity A intends to operate a safari lodge and other African operations indefinitely.

Events in 20X0–20X2

On 2 January 20X0, Entity A incorporates a wholly-owned separate legal entity—The Open Country Safari Company (Open Safari)—in the Republic of Africana (Africana)² by contributing £10,000,000 to form Open Safari’s permanent capital.

¹ The names of individuals, companies and places in this case study are fictitious. Any resemblance to people or entities is purely coincidental.

² The name of this country fictitious. Any resemblance to any country is purely coincidental.

On 3 January 20X0, Open Safari obtains an £8,000,000 loan facility from a British bank. The loan is denominated in British pounds (£). The loan agreement obligates the bank to transfer £8,000,000 to Open Safari on 3 January 20X0 and Open Safari to transfer to the bank £400,000 on each of 31 December 20X0, 20X1 and 20X2 and the balance of £8,400,000 on 31 December 20X3 (in full and final settlement of the loan). Entity A guarantees all payments to the bank in the event that Open Safari defaults.

Acquisition of land

On 1 February 20X0, Open Safari purchases 1,000 hectares of undeveloped natural land in central Africa (Property A) for \$10,000,000³, with the aim of establishing an ecotourism business. The property is not fenced and adjoins a national park on all its boundaries except its western boundary, where Property A adjoins privately owned undeveloped land that is currently unused. A wide range of indigenous plants and wild animals (including significant numbers of elephant, giraffe, zebra and a wide variety of antelope) inhabit Property A and surrounding lands. Law in Africa specifies that wild animals are the property of the owner of the land that they occupy.

Design of infrastructure

The Bilkersens are inspired by the potential of the property to attract international tourists because visitors would be able to view native animals at close range in their natural habitat. Consequently, in February 20X0, the couple contract an architect to design a luxury safari lodge. The construction phase is expected to take about three years to complete. The managers plan for the buildings to blend in with their setting and to have minimal impact on the environment. They therefore prefer to use local materials and building techniques, including thatch-grass roofing harvested from Property A, for the lodge and staff accommodation buildings.

In April 20X0 the plans for the lodge are finalised. They include the construction of a reception area, restaurant, lounge, swimming pool and an office from which to administer the lodge and safari operations. The plans also include a home for the Bilkersens, twenty smaller free-standing homes for the staff and eighteen movable, luxury aluminium-framed canvas safari tents for guests.

When complete, the main building will comprise the external structure (expected economic life 60 years), ducted air-conditioning (30 years), the grass roof (20 years), fixtures and fittings (15 years), hard furniture (15 years) and soft furnishings (5 years). However, to maintain the upmarket image of the lodge, management expect to replace the grass roof, fixtures and fittings, hard furniture and soft furnishings at intervals of 10, 5, 3 and 2 years respectively. Management do not intend to replace the external structure or the ducted air-conditioning before the end of its economic life. Although the grass roof and the fittings will not have reached the end of their expected economic lives at the time of their expected replacement, removing these assets is

³ Dollar (\$) is the currency of the United States of America.

expected to damage them to a degree that will render them worthless. Management intend to use the natural stone swimming pool for its entire 60-year economic life.

The external structure of the residential buildings (homes) has an expected economic life of 60 years, the grass roof (20 years), furniture (15 years) and soft furnishings (5 years). Management intend to only replace those items at the end of their economic lives, at which point they will be worthless. The costs of disposal are expected to be insignificant.

Because local legislation prohibits the disposal of all but the most biodegradable waste (for example, the grass roofing) on the entity's land, management expects to dispose of the removed fixtures and fittings at the nearest local government recycling plant that is situated about 200 kilometres from the entity's land. The costs of dismantling, removing and disposing of those assets is likely to be significant. Although the fair value of the removed furniture and soft furnishings is likely to be significant at the date of their disposal, the entity's policy is to sell those fittings to their staff in exchange for a nominal amount of cash. Because the staff come from largely impoverished communities it is highly likely that all of the soft furnishings will be disposed of in this manner. This benefit also provides an incentive for the employees to stay in the employment of the company and to take greater care of the soft furnishings.

Each safari tent has an aluminium frame (expected economic life 30 years), a canvas covering (10 years), fixtures and fittings (8 years), furniture (6 years) and soft furnishings (2 years). The lower economic life of the assets when compared with those in the lodge is mainly attributable to the greater exposure to the elements (for example, sunlight, wind and dust) in the canvas tents. The safari tents are fully transportable and can be removed to another location if required. Open Safari expects to replace its safari tents every 15 years. Although the fair value of the safari tents will likely be significant at the end of their economic lives, Open Safari's 'community support policy' is to donate the used tents to a charity that supports health care and education in nearby rural communities. Open Safari aims to foster good relations with nearby communities from which its employees come.

Lodge construction

On 1 May 20X0, the architect billed Open Safari AFZ2,000,000⁴ for design work performed from February to April 20X0. Her time was allocated as follows: 90% on the lodge building, 5% on the home that will be used by the Bilkersens and 5% on the staff housing.

On 2 May 20X0, a diesel-powered electricity generator was purchased for \$100,000 and installed at the lodge at a further cost of AFZ20,000. The generator is the only source of electricity at the remote lodge site and there are no plans to extend the national electricity to the area in the foreseeable future.

⁴ The Africanian Zollar (AFZ) is the currency of Africanaia.

The twenty staff houses and the manager's house are built between May and December 20X0. The Bilkersens manage the construction project. In 20X0 Open Safari are billed the following amounts in respect of the construction of all of the houses:

- building material AFZ30,000,000 and \$1,000,000;
- building contractors AFZ20,000,000;
- building equipment \$20,000 and AFZ10,000;
- casual labour to cut, bundle and bind thatch-grass AFZ900,000; and
- electrician fees and fittings AFZ600,000.

The cost incurred to construct the Bilkersens' house (the manager's house) is approximately double that of a regular staff house.

The main lodge building is constructed between January 20X1 and June 20X2 by an independent construction firm in accordance with a €5,000,000 fixed-price contract. Open Safari rent the staff housing to the independent construction contractors to house their employees while the main lodge is constructed. The rent charged is AFZ4,000,000.

Acquisition of safari tents

On 30 September 20X2, the eighteen canvas safari tents are purchased from an external supplier for \$1,000,000 and transported to the site for erection (transport costs AFZ1,000,000).

Acquisition of furniture, fittings and furnishings

In November 20X2 all of the furniture, fittings and furnishings for the main lodge building are fitted and tested and all are ready for use, as intended by management, by 1 December 20X2.

Acquisition of helicopter and hot air balloons

On 10 December 20X2, Open Safari purchases a helicopter for \$300,000 and two hot air balloons for €20,000 each.

The helicopter is to be used to transfer clients between the nearest airport and Property A (a distance of nearly 100 kilometres) and for operating aerial safaris on Property A. Open Safari expects the helicopter engine to last five years and the helicopter body to last ten years. At the time of purchase, the helicopter had passed the mandatory air safety inspection (a legal condition of the helicopter licence) at a cost of \$10,000. The next safety inspection must be completed before 30 September 20X4.

The hot air balloons are to be used for aerial safaris on Property A. Open Safari expects the balloons and basket to last for five years and the firing equipment to last for ten years.

Acquisition of customer list

On 20 December 20X2, Open Safari pays €200,000 for a database of names and contacts from an upmarket adventure-tour operator. The Bilkersens expect the customer list will be effective

in identifying potential customers for a maximum of five years, after which the database will be too old to be effective. By that time they expect Open Safari will have established itself as a leading brand in the ecotourism industry and direct mailing will no longer be necessary.

Staff training

In December 20X2, the Bilkersens begin the intensive training of the staff recruited from nearby communities. Staff are trained in all aspects of running an exclusive ecotourism lodge.

Because of the lack of an established network of roads on Property B, safaris are undertaken in three ways:

- game tracking on foot;
- game viewing by helicopter; and
- game viewing by hot air balloon.

The Bilkersens ensure that the most knowledgeable local game trackers are hired to lead the walking safaris.

20X3

On 31 January 20X3 Open Safari's website goes live, with a development cost of £100,000. The website is Open Safari's main link with its customers. The website provides much information about the lodge and its ecotourism activities and allows customers to book safaris directly.

In February and March 20X3 Open Safari runs an extensive advertising campaign in a range of leading international ecotourism and natural interest publications (\$50,000) promoting its exclusive ecotourism operations in Africa. The Bilkersens also promote the lodge at trade fairs in Germany, France, the Netherlands (€30,000) and the United Kingdom (£10,000) and by mailing the contacts on the purchased customer list. In accordance with their ecotourism development support programme, the African government contributes a grant of AFZ100,000 to meet particular costs associated with the Bilkersens' promotional activity of the lodge at the European trade fairs.

In April 20X3 the lodge opens for business and welcomes its first customers. In 20X3 the lodge incurs a small operating loss. However, the loss is significantly smaller than the loss forecast by Entity A for Open Safari's first year of operations.

Eradication of lantana

On 30 October 20X3 Open Safari receives a grant of AFZ200,000 from the African government to partly fund the purchase of the equipment and chemicals necessary for use in the eradication of lantana (an invasive alien plant) from about 15 acres of Open Safari's land. The grant is conditional upon the lantana being substantially eradicated from Open Safari's land by 31 December 20X4. In November and December 20X3 Open Safari spends \$40,000 on

chemicals and AFZ200,000 on chemical spraying equipment and machetes for use in its lantana eradication efforts.

20X4

By September 20X4, all the lantana has been eradicated from Property A to the satisfaction of the inspector from Africana's Ministry of Tourism.

The Africanian operations are generating a profit significantly in excess of the Bilkersens' expectations and Entity A's forecast. Consequently, the Bilkersens decide to expand the Open Safari's African operations further. The introduction of elephant-backed safaris in March 20X4 allows Open Safari to significantly increase the price of its Africanian safaris in response to unexpectedly high demand for that service.

Acquisition of WoXy Safari's assets and businesses

On 2 January 20X4 Open Safari acquires all of the assets and businesses of WoXy Safaris at public auction for ZAR30 million.⁵ The founding owner-manager and sole shareholder of WoXy Safaris (Mr Lucky) disposed of WoXy Safaris to fund his retirement. WoXy Safaris operates in the ecotourism and agribusiness sectors on land it owns in South Africa. That land, which is securely fenced, is the sole remaining habitat of the endemic quagga (*Equus quagga quagga*). The quagga is a subspecies of the common zebra (*Equus quagga*) and was, until its rediscovery by Mr Lucky about a decade ago, thought to be extinct.

WoXy Safari's profitable ecotourism business provides tourists the experience of observing the world's only quaggas in their natural habitat in a one-hour elephant-back safari. The safaris are marketed under the registered 'WoXy' brand name.

WoXy Safari's profitable agribusinesses comprise a premium badger-friendly honey production business and sustainable pine plantations.

The main reasons for Open Safari acquiring WoXy Safaris is to obtain its herd of quaggas and its ten safari-trained elephants and their five partially trained calves. Following the acquisition, the elephant herd is immediately relocated to Property A using a military helicopter provided at no cost to Open Safari by the government of Africana. The relocation assistance is provided in accordance with that government's ecotourism development support programme.

Prior to the auction, the Bilkersens estimate the fair values of WoXy Safari's tangible assets as follows:

⁵ Rand is the currency of South Africa (ZAR).

	ZAR
Land and all plants (including pine trees) growing on it	20,000,000
Quaggas (herd: 30 mature + 10 immature)	4,000,000
Elephants (herd: 10 mature + 5 immature)	2,500,000
500 active bee hives	500,000
<i>Total tangible assets</i>	27,000,000

Open Safari also continues to operate WoXy Safari's South African agribusinesses.

In February 20X4, Open Safari relaunches the modified South African ecotourism business using the WoXy brand—offering horse-back quagga safaris using a herd of 20 horses it acquired at a cost of ZAR200,000 in a separate acquisition.

20X5 to 20X8

After living in Africana for about five years, the Bilkersens are further inspired by its potential as a showcase for wildlife. On 2 January 20X5, Open Safari acquires a second property (Property B) in Africana. Property B is a mix of undeveloped grass land and bushveld. Except for the portion of the property that adjoins the Indian Ocean, the perimeter of this property is securely fenced. Although securely fenced, there are no animals of significant value on Property B at the time of acquisition.

The main purposes of acquiring Property B are to obtain land on which to breed rare native animals (for example, African wild dog, brown hyena and white rhino) for release into the wild on Property A and to broaden the range of activities Open Safari can engage in, including:

- breeding Tuberculosis-free African buffalo for sale to others;
- operating land-based photographic safaris;
- licencing land-based self-drive photographic safaris;
- operating aquatic safaris (snorkelling, diving and whale watching) from the coast bordering Property B; and
- developing a beach-holiday facility and casino.

All these activities take place on, or adjacent to, Property B. However, before they can be undertaken Open Safari must first construct a network of roads on Property B.

Road infrastructure development

The road development plans include the construction of several gravel roads and bridges over the three-year period ending 31 December 20X7 to allow access to the property from the national road that runs past the property's western boundary. The roads and bridges will also allow the operation of photographic safaris on the property. The two main bridges crossing the

river will be constructed by external parties under a €1,000,000 two-year fixed-price construction contract.

Payment to the external contractor for the construction of the bridges in accordance with the contract is made as follows:

- 20X6 €500,000 on 1 June, when construction started;
- €280,000 on 1 December 20X6 for the first bridge (ie €250,000 progress payment plus €30,000 early completion incentive); and
- €210,000 on 30 June 20X8 for the second bridge (ie €250,000 progress payment less €40,000 late completion penalty).

Open Safari decides to self-construct the gravel roads and minor bridges (and thereafter to maintain them). Consequently, on 10 January 20X5, Open Safari obtains from a local heavy equipment distributor the exclusive right to use the following equipment for a ten-year period under a single non-cancellable lease: a grader, a front-end loader, a rock crusher, two tip-up trucks, a roller and 1,000 sticks of dynamite. The terms of the lease oblige Open Safari to pay to the distributor \$100,000 per year on 30 December of each year of the lease, starting 30 December 20X5. Upon making the final lease payment, the ownership of the equipment automatically transfers to Open Safari.

Had Open Safari purchased the individual items of heavy equipment for cash on 10 January 20X5 it would have paid the distributor list price, as follows:

- grader: \$250,000
- Caterpillar with a front-end loader: \$200,000
- rock crusher: \$150,000
- roller: \$100,000.
- tip-up trucks: \$45,000 each
- a box of 1,000 sticks of dynamite \$10,000 (note: individual sticks can be purchased for \$20 each. In accordance with law, dynamite not used within two years of purchase must be destroyed).

However, Open Safari would have obtained a \$100,000 bulk order discount from the distributor's list prices had it purchased all of the items together for cash. That bulk discount is reflected in the lease payments amounts agreed with the distributor.

In January 20X5, an independent surveyor designs the road to the management's specifications at a cost of \$30,000. First the road is plotted using stakes put into the ground at 10 meter intervals, then the Caterpillar clears the bush along the route of the road before the grader scrapes the debris and remaining plant matter to reveal and smooth the earth. Next, crushed stone is layered over the graded ground and compacted by the roller to form the surface of the road. The process is very time consuming and only 10 kilometres of road is completed in 20X5.

Most (980 sticks) of the dynamite is used in 20X5 to blast a track through the only unavoidable rocky outcrop in the entire 200-kilometre planned road construction. After blasting, the loose stone is excavated by the Caterpillar front-end loader and delivered to the nearby stone crusher using one of the tip-up trucks. After the stone is crushed, it is delivered by the other tip-up truck to the freshly graded sand road, where it is compacted by the roller. Management expect that the remaining 20 sticks of dynamite will expire unused. If so, it will likely cost \$2,000 to dispose of the unused dynamite in 20X7.

Management initially expected that the stone crusher would need to be replaced only when it had crushed sufficient stone to surface 100 kilometres of road. However, on 30 November 20X5, after crushing enough stone for surfacing only 15 kilometres of road, the crusher burns out and is scrapped at a cost of AFZ200,000. After consulting with the supplier it is agreed that the loss is not covered by the manufacturer's warranty because the use to which Open Safari put the machine was significantly beyond the terms of use covered by the warranty. On 1 December 20X5 a bigger and more robust crusher (fit for the purpose to which Open Safari will put it) was purchased for \$210,000 using a one-year's interest-free credit facility. The list price of the machine for a cash sale is \$200,000. Management expect that the new crusher will crush enough stone to surface about 200 kilometres of road, at which time it will be scrapped.

Provided day-to-day maintenance is performed, the economic life of the grader is most sensitive to the type and amount of work to which it is put. When used in road construction on undeveloped land in the type of terrain Open Safari intends to use it, the tyres and the blade will need replacing about every 5 and 10 kilometres respectively. When maintaining existing roads, the tyres and the blade will need replacing only after about 100 kilometres and 200 kilometres respectively. The economic life of the other equipment is unaffected by whether the road is being developed or maintained.

The roller is the most robust of the heavy machinery. Provided it is well maintained it should easily complete the construction phase of the roads and could be used to maintain the roads for another twenty years or so.

The Caterpillar front-end loader could be used to construct about 400 kilometres of road, except that it will likely consume about a quarter of its total service capacity by excavating the road through the rocky outcrop. Consequently, management expect that that machine will complete the construction phase of the road and they plan to use it for about another ten years of road maintenance. Because of their considerable heavy metal content, disused Caterpillars are commonly sold for scrap metal.

Management expect that the use of the equipment in maintaining the road after its construction will not vary greatly from one year to the next.

The construction of the entire road network is completed in October 20X7 (a few months ahead of schedule).

Beach holiday resort development

In 20X5 Open Safari successfully apply for a portion of Property B's beachfront land to be rezoned for residential development (200 acres) and casino resort development (50 acres).

On 1 February 20X5 the government of Africana grants Open Safari a licence to operate a casino on Property B for 60 years in accordance with its ecotourism development support programme. The licence is granted free of charge. The grant is conditional on the casino being constructed within five years. Thereafter, the licence is automatically revoked if the casino is dormant for a period of greater than two months in any year of the licence period.

In the same year, Open Safari appoint external contractors to construct, over the next three years, 200 luxury beachfront holiday homes, with each set in one acre of land. The general public can buy a beachfront home either off a limited range of plans and specifications pre-determined by Open Safari or after the home is constructed. By 31 December 20X8 all 200 plots are sold and construction of only 10 beachfront homes is outstanding.

In 20X5, before starting construction work on the casino, Open Safari contract an international casino resort operator to operate the casino for 20 years. The terms of the agreement require Open Safari to construct a casino hotel on Property B to the specifications stipulated by the casino operator. The construction contractor must be chosen by the casino operator in accordance with a \$200 million fixed-price construction contract that will be negotiated by the casino operator. The casino operator will actively manage the project of constructing the casino hotel.

The casino operator is contractually obliged to pay Open Safari:

- €40 million on signing the contract in 20X5;
- €100 million over the construction phase of the casino hotel (when payments are required to be made to the construction contractor); and
- €20 million per year over the twenty years following the completion of construction.

Other than the payments specified above Open Safari does not share in the revenue and expenses of the casino operation over the 20 year period that it is operated by the international casino operator. The Bilkersens are undecided about how Open Safari will benefit from the casino related assets after the agreement with the current operator expires—possibilities include continuing to contract an external party to operate the casino and Open Safari actively managing the casino operations.

The construction of the casino hotel is completed in December 20X8. The economic life of the casino hotel building is estimated at 60 years with no residual value. The economic life of all equipment and fittings and furniture in the casino hotel is 20 years or less.

Relocating game to Property B

In 20X5, in anticipation of operating photographic safaris on Property B, Open Safari pay game capture experts ZAR3,000,000 to capture small numbers of elephant, zebra, giraffe, warthog and a wide range of antelope on Property A and to relocate and release those animals on Property B. The relocated animals adapt well to their new environment and in the absence of their natural predators their numbers increase steadily in the years following their relocation.

Animal husbandry facilities

In 20X6 Open Safari construct breeding dens in smaller, securely fenced enclosures to house wild dogs and brown hyena (cost AFZ270,000). Open Safari also ‘rhino proofs’ the perimeter fence of Property B by reinforcing it with a thick steel cable, which is secured one foot above ground level (cost AFZ400,000).

In late 20X6 Open Safari purchases the following animals at a reputable game auction in South Africa. The table also shows the prices paid at auction for animals in 20X7 and 20X8.

<i>(All amounts shown in this table are per animal)</i>	<i>Price paid by Open Safari at auction in 20X6</i> ZAR	<i>Relocation costs incurred by Open Safari</i> ZAR	<i>Price paid by others at auction in 20X7</i> ZAR	<i>Price paid by others at auction in 20X8</i> ZAR
4 wild dogs	1,500		1,600	1,100
4 brown hyena	1,300		1,800	1,700
5 white rhinoceros	150,000		180,000	200,000
5 black rhinoceros	120,000		130,000	150,000
10 TB free cape buffalo	100,000		160,000	140,000

The costs of food, supplies, keepers’ wages and veterinarian services that are incurred in caring for the animals is about AFZ1,000,000 per year.

The table below documents the success of Open Safari's captive breeding programme on Property B:

	<i>Wild dog</i>	<i>Brown hyena</i>	<i>White rhinoceros</i>	<i>Black rhinoceros</i>	<i>Buffalo</i>
Purchased at auction	4	4	5	5	10
Died in relocation	(1)				
31/12/20X6	3	4	5	5	10
Born	5		1		3
Poached				(1)	
31/12/20X7	8	4	6	4	13
Born	3	2	2	1	5
31/12/20X8	11	6	8	5	18
Born		2	2	1	8
Died					(1)
Released on Property A	(6)		(4)		
Sold at auction					(5)
31/12/20X9	5	8	6	6	20

Bespoke safari vehicles

On 30 June 20X8 Open Safari purchases three vehicles (cost \$200,000 each) and arranges for the vehicles to be equipped for photographic safaris, including reinforcing the chassis and strengthening the suspension before fitting bespoke seating structures with a canvas roof on the back of the vehicles, painting the vehicle and including the logo of the Open Country Safari Company. The modifications cost \$15,000 per vehicle. Each vehicle is expected to be used for three years or until they have travelled 200,000 kilometres.

Operations

Under the careful and enthusiastic management of the Bilkersens, the Open Safari prospers in 20X5 to 20X8. Customers at Property A come mainly from the Eurozone countries with smaller numbers from Canada, China, Japan, the UK and USA. Only an insignificant number of customers come from Africa and South Africa. Payments for the holidays are made at least six weeks in advance of the visit and are billed and received in US dollars only.

20X9

Safaris commence at Property B

On 1 January 20X9, Open Safari takes delivery of two bespoke, luxury motorised yachts for its aquatic safari (snorkelling, diving and whale watching) business. The yachts each cost

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£3 million. The aquatic safaris immediately prove popular with many of Open Safari's guests, who extend their vacations from Property A to include aquatic safaris at Property B or book separate vacations at Property B.

In 20X9 photographic safaris become increasingly popular with the guests of the casino hotel and those staying at the 200 homes on Property B.

Medical research facility

For some time the Bilkersens have been concerned about the tragic plight of animals with incurable diseases. To take action to stop the spread of pandemic diseases and to save the lives of infected animals, Open Safari enters into an arrangement with the leading South African university to set up and operate a research facility. The aim of the research facility is to find a cure for bovine tuberculosis (bovine TB) and feline acquired immune deficiency syndrome (feline AIDS). Open Safari donates ZAR3,000,000 to the university to fund the construction of a purpose-built laboratory on property located within the university campus. Construction is completed in 20X9. Open Safari also agrees to provide ZAR1,000,000 per year to fund the operating budget of the research centre that will be staffed by the university's foremost researchers. In accordance with the agreement with the university, Open Safari has the exclusive right to patent any cures discovered or developed (or both) at the research institute.

Release of captive bred animals

In July 20X9, following an intensive habituation programme, a pack of six wild dogs from the captive breeding programme on Property B is released into the wild on Property A.

The Open Country Safari Company Case Study

Case study matrix for discussing information about economic phenomena (economic resources, and the effects of transactions and other events and conditions that change those resources) associated with **Property A** for financial reporting of assets by Open Safari in accordance with IFRSs or the *IFRS for SMEs*.

	What is the economic phenomenon?	What information about the economic phenomenon would primary users find useful in making decisions about providing resources to the entity?	Which element—eg asset?	If asset, which IFRS applies, ie classification?	Are the asset recognition criteria satisfied?	What is the unit of account?	How to measure the asset at initial recognition?	How to measure the asset after initial recognition? If accounting policy choice, which model provides users with better information (and why)?	Must the asset be derecognised (if so, when)?	How should the asset be presented and disclosed in the entity's financial statements?
Untamed land										
Naturally occurring plants and animals										
Safari elephants										
Released captive bred wild animals										
Building, lodge										
Swimming pool										
Electricity generator										
Buildings, staff houses										
Equipment at main lodge										
Safari tents										
Helicopter										
Hot air balloons										
Furniture										
Purchased customer list										
Website										
Advertising										
Borrowing costs										
Government grants										

Lantana eradication										
Operating loss 20X3										
Other										

The Open Country Safari Company Case Study

Case study matrix for discussing information about economic phenomena (economic resources, and the effects of transactions and other events and conditions that change those resources) associated with **Property B** for financial reporting of assets by Open Safari in accordance with IFRSs or the *IFRS for SMEs*.

	What is the economic phenomenon?	What information about the economic phenomenon would primary users find useful in making decisions about providing resources to the entity?	Which element— eg asset?	If asset, which IFRS applies, ie classification?	Are the asset recognition criteria satisfied?	What is the unit of account?	How to measure the asset at initial recognition?	How to measure the asset after initial recognition? If accounting policy choice, which model provides users with better information (and why)?	Must the asset be derecognised (if so, when)?	How should the asset be presented and disclosed in the entity's financial statements?
Acquisition of:										
- untamed land										
- fence										
- plants and wild animal thereon										
Reinforcing the fence										
Canine enclosures										
Wild animals:										
- from Property A and their progeny										
- purchased at auction and their progeny										
Food, supplies and keepers' wages and veterinarian services										
Internally constructed roads and 'minor' bridges										
Bridges constructed by independent contractor										
Road and bridge maintenance (subsequent expenditure)										
Leased equipment :										

- grader										
- front-end loader										
- rock crusher										
- 2 tip-up trucks										
- roller										
- dynamite										
Purchased rock crusher										
Machine maintenance										
Replacement parts										
Rezoning costs										
Casino licence										
Casino hotel:										
- building										
- equipment										
Holiday homes										
Bespoke safari vehicles										
Two bespoke yachts										
Other										

The Open Country Safari Company Case Study

Case study matrix for discussing information about economic phenomena (economic resources, and the effects of transactions and other events and conditions that change those resources) associated with **the medical research facility** for financial reporting of assets by Open Safari in accordance with IFRSs or the *IFRS for SMEs*.

	What is the economic phenomenon?	What information about the economic phenomenon would primary users find useful in making decisions about providing resources to the entity?	Which element—eg asset?	If asset, which IFRS applies, ie classification?	Are the asset recognition criteria satisfied?	What is the unit of account?	How to measure the asset at initial recognition?	How to measure the asset after initial recognition? If accounting policy choice, which model provides users with better information (and why)?	Must the asset be derecognised (if so, when)?	How should the asset be presented and disclosed in the entity's financial statements?
Building										
Operating costs										
In-process research										
Other										

The Open Country Safari Company Case Study

Case study matrix for discussing information about economic phenomena (economic resources, and the effects of transactions and other events and conditions that change those resources) associated with **WoXy Safari operations** for financial reporting of assets by Open Safari in accordance with IFRSs or the *IFRS for SMEs*.

	What is the economic phenomenon?	What information about the economic phenomenon would primary users find useful in making decisions about providing resources to the entity?	Which element—eg asset?	If asset, which IFRS applies, ie classification?	Are the asset recognition criteria satisfied?	What is the unit of account?	How to measure the asset at initial recognition?	How to measure the asset after initial recognition? If accounting policy choice, which model provides users with better information (and why)?	Must the asset be derecognised (if so, when)?	How should the asset be presented and disclosed in the entity's financial statements?
Land and all plants growing on it										
Elephant herd										
Quagga herd										
Active bee hives										
WoXy brand										
Goodwill										
Government grant										
Relaunch expenditure										
Other										

A Framework-based teaching approach to accounting for property, plant and equipment

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This article is a 'work in process'. It will be revised following feedback and comments from people attending a series of workshops on the Framework-based approach to teaching International Financial Reporting Standards (IFRSs) organised by the IFRS Foundation and others (including the British Accounting and Finance Association (BAFA), the European Accounting Association (EAA) and the International Association for Accounting Education and Research (IAAER)). After revisions, the material will be available as an educational resource on the IFRS website.

Introduction

This article has two parts. The aim of the first part of the article is to explain what is meant by Framework-based teaching and why it is important and useful for educators. We focus on the IFRS requirements for property, plant and equipment (IAS 16 *Property, Plant and Equipment* and Section 17 *Property, Plant and Equipment* of the *IFRS for Small and Medium-sized Entities (SMEs)*) and demonstrate how a Framework-based approach could be used in the three stages of the learning continuum typically followed by Chartered Accountant (CA)/Certified Public Accountant (CPA) stream students.

The second part presents teaching materials that could be used by educators of Stages 1 and 2 classes. The aim of the second part is to provide reference material and examples that are relevant for students in a Framework-based teaching approach. The Stage 1 material comprises summary notes for students from relevant sections of the *Conceptual Framework for Financial Reporting* (the *Conceptual Framework*), IAS 16 and Section 17. It also contains examples and discussion questions relating to identification, recognition, measurement, derecognition, judgement and estimates for accounting for property, plant and equipment (PPE). The third section presents tutorial questions and solutions.

The Stage 2 material includes reference materials (a reading list for review before class) and other class materials to assist with teaching on PPE. It also includes notes for students based on extracts from the *Conceptual Framework* and the main principles in IAS 16 and Section 17 of the *IFRS for SMEs*. The notes include examples and discussion questions relating to objectives, scope, recognition, measurement, derecognition and presentation and disclosure of PPE. Finally a set of assignment questions are presented.

1 | The views expressed in this article are those of the authors and are not necessarily those of the IFRS Foundation or the IASB. Official positions of the IFRS Foundation and the IASB are determined only after extensive due process and deliberation.

Part 1 Framework based teaching

The Conceptual Framework

The objective of the IASB's *Conceptual Framework for Financial Reporting* (the *Conceptual Framework*) is to facilitate the consistent and logical formulation of IFRSs (see paragraph 8 of the Preface to IFRSs). In other words, the *Conceptual Framework* sets out the agreed concepts on which the IASB bases IFRSs. Consequently, most IFRS requirements are consistent with the concepts set out therein. However, application of the cost constraint⁽¹⁾ continues to result in IFRS requirements that do not maximise the qualitative characteristics or other main concepts in the *Conceptual Framework*.

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity.⁽²⁾ Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (see paragraph OB2 of the *Conceptual Framework*). In order to assess an entity's prospects for future net cash inflows, existing and potential investors, lenders and other creditors need information about the resources of the entity, claims against the entity, and how efficiently and effectively the entity's management and governing board have discharged their responsibilities to use the entity's resources (see paragraph OB4 of the *Conceptual Framework*).

The main concepts in the *Conceptual Framework* that flow from the objective of general purpose financial reporting include the qualitative characteristics, element definitions and the accrual basis of accounting. Because other aspects of the *Conceptual Framework* flow logically from the objective of general purpose financial reporting, a good understanding of the objective is fundamental to Framework-based teaching.

Framework-based teaching

Framework-based teaching relates the concepts in the *Conceptual Framework* to the particular IFRS requirements being taught. In other words, Framework-based teaching relates the accounting and reporting of the entity's economic resources, claims, and changes in resources and claims against the entity, and other transactions and events, to the objective of financial statements and other main concepts that flow from that objective.

To use Framework-based teaching, students must first be taught the objective of financial reporting and the other main concepts set out in the *Conceptual Framework* and the economics of a particular transaction or event to be accounted for. Then the class can reflect on what information about the resulting economic resources of the entity or resulting claims against the entity (and changes in those resources and claims) would be useful to existing and potential investors, lenders and other creditors to help them to assess the prospects for future net cash inflows to the entity (ie students should relate the economic phenomenon to the

⁽¹⁾ When setting IFRSs, the IASB assesses whether the benefits of reporting particular information are likely to justify the costs incurred to provide that information (paragraph QC38 of the *Conceptual Framework*).

⁽²⁾ Many of those users cannot require the reporting entity to provide information directly to them and must rely on general purpose financial reports for much of the information they need (paragraph OB5 of the *Conceptual Framework*). Consequently, they are considered to be the primary users of financial statements.

objective of financial reporting). Only then are they taught the relevant IFRS requirements. Finally students could also be taught the main principles in IASB discussion papers or proposed standards (exposure drafts) that, if adopted, would replace the current IFRS requirements.

Using a Framework-based approach, teaching can be enriched by discussing the extent to which the proposed requirements are consistent with the objective and concepts set out in the *Conceptual Framework*. Similarly, in jurisdictions in which IFRSs co-exist with local general purpose financial reporting standards (local GAAP) that are based on a similar conceptual framework, Framework-based teaching provides an effective and efficient basis for teaching both sets of standards simultaneously.

Because the objective of the *Conceptual Framework* is to facilitate the consistent and logical formulation of IFRSs, adopting a Framework-based approach to teaching IFRSs provides students with a cohesive understanding of IFRSs by relating the requirements in IFRSs to the objective of IFRS financial information and the concepts that underlie IFRSs and inform their development. Furthermore, IFRS teachers should explain why, for some IFRS requirements, the IASB concluded that it was cost-beneficial not to maximise the qualitative characteristics or other main concepts in the *Conceptual Framework*. The IASB's reasons are usually set out in the Basis for Conclusions that accompanies, but does not form part of, the particular IFRS.

To a large extent, financial statements that conform to IFRSs are based on estimates, judgements and models rather than exact depictions of reality. Because the *Conceptual Framework* establishes the concepts that underlie those estimates, judgements and models, it provides a basis for the use of judgement in resolving accounting issues. For example, if there is no explicit IFRS requirement that applies to a transaction, other event or condition, management uses its judgement to develop and apply an accounting policy that results in information that is relevant to the economic decision-making needs of users and is reliable (ie resulting in a neutral and faithful representation of the financial position, financial performance and cash flows of the entity reflecting the economic substance of the economic phenomenon) (see paragraph 10 of IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*).

The second level of the hierarchy for applying that judgement requires that management refer to and consider the definitions, recognition criteria and measurement concepts in the *Conceptual Framework* (see paragraph 11 of IAS 8).³

IFRSs and accounting for property, plant and equipment

As jurisdictions implement IFRSs, many find that the accounting for property, plant and equipment (PPE) is a special challenge (Upton, 2010).⁴ The previous accounting in such jurisdictions was often influenced or governed by tax or central government planning, rather than financial reporting principles designed to inform capital allocation decisions. Other jurisdictions, where accounting is based on concepts similar to those that underlie IFRSs,

⁽³⁾ For more information about Framework-based teaching see Wells, M. (2011) Framework-based teaching of principle-based standards, *Accounting Education: An international journal* Vol. 20 No. 4: 373:385.

⁽⁴⁾ Upton, W. Depreciation and IFRS, 2010. Available at <http://www.ifrs.org/Use+around+the+world/Education/Occasional+Education+Notes.htm>

have developed prescriptive rules and industry specific guidance that replace the use of judgement in accounting for PPE. Because IFRSs are principle-based standards designed for use globally and across all industries they do not include such prescriptive rules and industry specific guidance. Consequently, applying IFRSs requires the use of estimates and other judgements. This article shows how Framework-based teaching can be used to better prepare students studying IFRSs to make the estimates and other judgements that are necessary to apply IAS 16 and Section 17 of the *IFRS for SMEs*.

4 | The views expressed in this article are those of the authors and are not necessarily those of the IFRS Foundation or the IASB. Official positions of the IFRS Foundation and the IASB are determined only after extensive due process and deliberation.

Classes in Stages 1, 2 and 3

For the reasons set out above, Framework-based teaching should also better prepare students to update their IFRS knowledge and competencies continuously in the context of life-long learning.

Framework-based teaching can be used at all levels at which IFRSs are taught. However, the number of IFRS requirements covered and extent of integration with other IFRS topics and related disciplines (eg finance and tax) would vary depending upon the objectives of the course and the level at which IFRSs are taught. Similarly, the teaching objectives regarding IFRS estimates and other judgements would progress from awareness through understanding to competence depending upon the objectives of the course and the level at which IFRSs are taught. The table below maps the progression of Framework-based teaching of CA/CPA stream students at three stages:

Stage 1: a student's first financial reporting course;

Stage 2: a financial reporting course mid-way to qualifying as a CA or CPA; and

Stage 3: a course immediately before qualifying as a CA or CPA.

The stages are necessarily broadly defined to take into account the many different approaches to qualifying as CAs and CPAs worldwide. We do not suggest that PPE is taught as a separate topic on three occasions. Rather we provide material that can be used at various stages when PPE is taught and when PPE examples are relevant to other topics (eg impairment, fair value measurement, provisions).

	Stage 1	Stage 2	Stage 3
Reference material: standards and other pronouncements	Extracts from the <i>Conceptual Framework</i> and basic IFRS principles	The <i>Conceptual Framework</i> , IFRS principles and selected IFRS rules and the Basis for Conclusions on the requirements being taught	The <i>Conceptual Framework</i> , IFRS principles and rules, the Basis for Conclusions on IFRSs, Local GAAP requirements (if any) and core principles in IASB DPs and EDs
Suggested class material	<ul style="list-style-type: none"> - reference material (above); - notes (see below for example of notes for property, plant and equipment (PPE)); and - tutorials (eg see below for example of a tutorial for property, plant and equipment (PPE)). 	<ul style="list-style-type: none"> - reference material as set out in <i>A Guide through IFRSs</i> (use in class and open-book examinations); - IFRS Foundation <i>IFRS for SMEs</i> training modules (free from www.ifrs.org); - IFRS financial statements (free from company websites or university databases or EDGAR online etc); - relevant published regulatory decisions (eg ESMA decisions—free from ESMA website); - relevant press articles; - notes (see below for example of notes for PPE); and - tutorials. 	<ul style="list-style-type: none"> - <i>A Guide through IFRSs</i> (use in class and open-book examinations); - IASB DPs and EDs (free from www.ifrs.org); - local GAAP; - IFRS financial statements (free from company websites or university databases or EDGAR online etc); - relevant published regulatory decisions (eg ESMA decisions—free from ESMA website); - relevant press articles; and - integrated case studies.
IFRS judgements and estimates	Create <i>awareness</i> of IFRS judgements and estimates.	Develop <i>understanding</i> of selected IFRS judgements and estimates.	Develop <i>competence</i> in making IFRS judgements and estimates.

	Some ideas: - video/web clips - class discussions - basic tutorials	Some ideas: - video/web clips - class discussions - advanced tutorials - group competitions - extracts from published financial statements - select regulatory decisions - select press reports	Some ideas: - video/web clips - class discussions - case studies - group competitions - extracts from published financial statements - select regulatory decisions - select press reports
Integration of IFRS topics	Very little, if any	Moderate	Significant
Integration with other accounting related disciplines (eg auditing, finance, tax)	Very little, if any	Moderate	Significant

The table below maps the progression of learning for CA/CPA stream students when a Framework-based teaching approach is used:

	Stage 1	Stage 2	Stage 3
Reference material: Standards and other pronouncements	Extracts from <i>Conceptual Framework</i> : objective, qualitative characteristics, element definitions, recognition criteria. Main principles in IAS 16: definition of PPE, cost, revaluation, depreciation, impairment and derecognition.	<i>Conceptual Framework</i> and IAS 16 and/or Section 17 of the <i>IFRS for SMEs</i> Basis for Conclusions on IAS 16.	<i>Conceptual Framework</i> ; IASs 16, 23 and 36, IFRS 5 and IFRIC 1; Basis for Conclusions on relevant IFRSs; main principles in IASB exposure drafts and discussion papers; and local GAAP.
IFRS judgements and estimates	Create awareness of the basic estimates required for depreciation (eg depreciation method, useful life and residual value).	Facilitate the development of an understanding of the judgements and estimates (see those described in pages 25 to 27 of Module 17 of the IFRS Foundation training material on the <i>IFRS for SMEs</i>) by using hypothetical examples, published financial statements, published regulatory decisions and press reports.	Facilitate the development of competence in making IFRS estimates and other judgements by, for example, using case studies that require judgement in making estimates and other judgements, published financial statements, published regulatory decisions and press reports.
Integration of IFRS topics	Very little, if any.	Introduction to IFRSs 3 & 5, IASs 1, 8, 10, 12, 17, 20, 21, 27, 31, 34, 36, 37 & 38, IFRICs 1 & 18 and SIC 25	Significant integration commonly including many of IFRSs 3 & 5, IASs 1, 8, 10, 12, 17, 20, 21, 27, 31, 34, 36, 37 & 38, IFRICs 1 & 18 and SIC 25.
Integration with other accounting related disciplines	Very little, if any.	Some integration with auditing, finance and taxation.	Increased integration with auditing, finance and taxation.

Part 2 Teaching materials

Stage 1 Teaching materials

In this part we present material teaching materials that could be used in Stage 1 classes. The materials include:

- Notes for students - extracts from the IASB's *Conceptual Framework for Financial Reporting* and the main principles in IAS 16 *Property, Plant and Equipment* and Section 17 *Property, Plant and Equipment* of the *IFRS for SMEs*;
- Examples and discussion questions relating to identification, recognition and measurement, derecognition and judgements and estimates.
- Tutorial questions and solutions.

Stage 1: Notes for students

The *Conceptual Framework* sets out the concepts that underlie the preparation and presentation of financial statements for external users. To a large extent, financial reports are based on estimates, judgements and models rather than exact depictions of reality. The *Conceptual Framework* establishes the concepts that underlie those estimates, judgements and models, and is the goal towards which the Board and preparers of financial reports strive (*Conceptual Framework* paragraph OB11).

Extracts from the IASB's Conceptual Framework

Objective

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (see paragraph OB2 of the *Conceptual Framework*). Other aspects of the *Conceptual Framework* (a reporting entity concept; the qualitative characteristics of, and the constraint on, useful financial information; elements of financial statements; recognition; measurement; presentation and disclosure) flow logically from the objective (see paragraph OB1 of the *Conceptual Framework*).

General purpose financial reports

General purpose financial reports provide information about the financial position of a reporting entity, which is information about the entity's economic resources and the claims against the reporting entity. Financial reports also provide information about the effects of transactions and other events that change a reporting entity's economic resources and claims. Both types of information provide useful input for decisions about providing resources to an entity (see paragraph OB12 of the *Conceptual Framework*).

Information about a reporting entity's financial performance during a period, reflected by changes in its economic resources and claims other than by obtaining additional resources directly from investors and creditors, is useful in assessing the entity's past and future ability to generate net cash inflows. That information indicates the extent to which the reporting

entity has increased its available economic resources, and thus its capacity for generating net cash inflows through its operations rather than by obtaining additional resources directly from investors and creditors (see paragraph OB18 of the *Conceptual Framework*).

Qualitative characteristics

The qualitative characteristics of useful financial information (relevance, faithful representation, comparability, verifiability, timeliness and understandability) identify the types of information that are likely to be most useful to the existing and potential investors, lenders and other creditors for making decisions about the reporting entity on the basis of information in its financial report (financial information) (see paragraph QC1 of the *Conceptual Framework*).

If financial information is to be useful, it must be relevant and faithfully represent what it purports to represent. Relevant financial information is capable of making a difference in the decisions made by users (see paragraph QC6 of the *Conceptual Framework*). To be a perfectly faithful representation, a depiction would have three characteristics. It would be complete, neutral and free from error (see paragraph QC 12 of the *Conceptual Framework*). The usefulness of financial information is enhanced if it is comparable, verifiable, timely and understandable (see paragraph QC4 of the *Conceptual Framework*).

Elements

Financial statements portray the financial effects of transactions and other events by grouping them into broad classes according to their economic characteristics. These broad classes are termed the elements of financial statements. The elements directly related to the measurement of financial position in the statement of financial position are assets, liabilities and equity. The elements directly related to the measurement of performance in the statement of comprehensive income are income and expenses (see paragraph 4.2 of the *Conceptual Framework*, which is updated for new terms).

Asset

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (see paragraph 4.4(a) of the *Conceptual Framework*). The future economic benefit embodied in an asset is the potential to contribute, directly or indirectly, to the flow of cash and cash equivalents to the entity (see paragraph 4.8 of the *Conceptual Framework*).

Income

Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants (see paragraph 4.25(a) of the *Conceptual Framework*).

Expenses

Expenses are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants (see paragraph 4.25(b) of the *Conceptual Framework*).

The standard IAS 16 *Property, Plant and Equipment* and Section 17 *Property, Plant and Equipment* of the *IFRS for SMEs* set out requirements for accounting for property, plant and equipment.

Extracts from IAS 16 and the *IFRS for SMEs*

Definitions

Property, plant and equipment are tangible assets that:

- (a) are held for use in the production or supply of goods or services, for rental to others or for administrative purposes; and
- (b) are expected to be used during more than one period (see paragraphs 6 of IAS 16 and 17.2 of the *IFRS for SMEs*).

Recognition

The cost of an item of property, plant and equipment shall be recognised as an asset if, and only if:

- (a) it is probable that future economic benefits associated with the item will flow to the entity; and
- (b) the cost of the item can be measured reliably (see paragraphs 7 of IAS 16 and 17.4 of the *IFRS for SMEs*).

Measurement at recognition

An entity shall measure an item of property, plant and equipment at initial recognition at its cost (see paragraphs 15 of IAS 16 and 17.9 of the *IFRS for SMEs*).

Measurement after recognition

An entity shall choose either the cost model in paragraph 30 or the revaluation model in paragraph 31 as its accounting policy and shall apply that policy to an entire class of property, plant and equipment (see paragraph 29 of IAS 16).⁽⁵⁾

Cost model—after recognition as an asset, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses (see paragraph 17.15 of the *IFRS for SMEs*).

Revaluation model—after recognition as an asset, an item of property, plant and equipment whose fair value (ie the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date) can be measured reliably shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period (see paragraphs 6 and 31 of IAS 16).

Depreciation

If the major components of an item of property, plant and equipment have significantly different patterns of consumption of economic benefits, an entity shall allocate the initial cost of the asset to its major components and depreciate each such component separately over its

⁽⁵⁾ The *IFRS for SMEs* does not permit use of the revaluation model.

useful life. Other assets shall be depreciated over their useful lives as a single asset. Land has an unlimited useful life and therefore is not depreciated (see paragraphs 17.16 of the *IFRS for SMEs* and paragraph 46 of IAS 16).

The depreciation charge for each period shall be recognised in profit or loss unless another section of this IFRS requires the cost to be recognised as part of the cost of an asset (see paragraphs 49 of IAS 16 and 17.17 of the *IFRS for SMEs*).

An entity shall allocate the depreciable amount of an asset on a systematic basis over its useful life (see paragraph 17.18 of the *IFRS for SMEs* and paragraph 50 of IAS 16). Depreciable amount is the cost of an asset, or other amount substituted for cost, less its residual value. An asset's residual value is the estimated amount that an entity would currently obtain from the disposal of an asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life (see the Glossary to the *IFRS for SMEs* and paragraph 6 of IAS 16).

An entity shall select a depreciation method that reflects the pattern in which it expects to consume the asset's future economic benefits. The possible depreciation methods include the straight-line method, the diminishing balance method and a method based on usage such as the units of production method (see 17.22 of the *IFRS for SMEs* and paragraphs 60 and 62 of IAS 16).

Impairment

At each reporting date, an entity shall determine whether an item or group of items of property, plant and equipment is impaired and, if so, how to recognise and measure the impairment loss (see paragraph 17.24 of the *IFRS for SMEs* and similar to paragraph 63 of IAS 16).

Derecognition

An entity shall recognise the gain or loss on the derecognition of an item of property, plant and equipment in profit or loss when the item is derecognised.⁽⁶⁾ Gains shall not be classified as revenue (see 17.28 of the *IFRS for SMEs* and paragraphs 68 of IAS 16).

Other

In addition to the above, principles in IAS 1 and the *IFRS for SMEs* that are relevant include:

- An entity shall not offset assets and liabilities or income and expenses, unless required or permitted by an IFRS (see paragraph 32 of IAS 1 and 2.52 of the *IFRS for SMEs*).
- When the accrual basis of accounting is used, an entity recognises items as assets, liabilities, equity, income and expenses (the elements of financial statements) when they satisfy the definitions and recognition criteria for those elements in the *Conceptual Framework* (see paragraphs 28 of IAS 1 and 2.36 of the *IFRS for SMEs*).

⁽⁶⁾ Unless IAS 17 requires otherwise on a sale and leaseback.

Stage 1: Examples

For some entities (particularly manufacturers and retailers) PPE is often a significant asset in their statements of financial position. Similarly, depreciation expense (akin to the consumption of the carrying amount of the PPE) is often a significant item in those entities' statements of comprehensive income. Consequently, relevant (ie capable of making a difference to the decisions made by users) and faithfully represented (ie information that is complete, neutral and free from error) information about an entity's PPE is likely to be useful to existing and potential investors, lenders and other creditors when making decisions⁽⁷⁾ about the reporting entity. Providing relevant and faithfully represented information about an entity's PPE in accordance with IFRSs and the *IFRS for SMEs* often requires judgement.⁽⁸⁾

Identifying PPE

Property, plant and equipment are tangible assets that:

- (a) are held for use in the production or supply of goods (eg a retailer's point-of-sale equipment) or services (eg an architect's tools), for rental to others (eg a car hire's rental fleet), or for administrative purposes (eg computer equipment used by an entity's administration staff); and
- (b) are expected to be used during more than one period (IAS 16, paragraph 6, examples added).

As can be seen from the definition above PPE need not be directly involved in the manufacturing process. PPE can, for example, be used in the administration or sales functions of the business.

It is usually not difficult to identify items of PPE. First, determine whether the item is an asset and then determine whether that asset is an item of PPE.

Example 1: Manufacturing equipment

An entity purchased a kiln to convert clay into bricks through a baking process. The kiln is expected by the brick manufacturer to operate effectively for about 10 years before being scrapped.

The first question—is the kiln an asset?

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (paragraph 4.4(a) of the *Conceptual Framework*).

The kiln is an asset of the manufacturer—it is a physical resource purchased by the manufacturer (past event) and used at the manufacturer's discretion (control) to manufacture bricks, the sale of which is expected to result in the flow of cash (future economic benefits) from the manufacturer's customers to the manufacturer.

The second question—is the kiln asset an item of PPE?

⁽⁷⁾ Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (*Conceptual Framework*, paragraph OB2).

⁽⁸⁾ For students with little or no exposure to machine-intensive manufacturing, a tour/virtual tour of a machine-intensive factory is recommended. Many virtual factory tours are freely available on the internet.

The brick manufacturer's kiln clearly satisfies the definition of an item of PPE—it has physical form (it is tangible), it is used to convert moulded clay into bricks (held for use in production) and it is expected to be used for about 10 years (in more than one period).

Conclusion

The kiln asset is an item of the brick manufacturer's PPE.

Example 2: Retail outlet

The brick manufacturer purchased a showroom in a location that is convenient for potential customers to view the entity's range of bricks and in which customers place orders for the entity's bricks. The manufacturer expects to market its bricks from the showroom for about 50 years.

The first question—is the showroom an asset?

The showroom is an asset of the manufacturer—it is a physical resource (a brick, mortar, wood and glass structure) purchased by the manufacturer (past event) and used at the manufacturer's discretion (control) as a showroom for the entity's bricks. The sale of those bricks that result from their marketing at the showroom is expected to result in the flow of cash (future economic benefits) from the manufacturer's customers to the manufacturer.

The second question—is the showroom asset an item of PPE?

The brick manufacturer's showroom clearly satisfies the definition of an item of PPE—it is made of bricks, mortar, wood and glass (it is tangible), is used to market the entity's bricks to potential customers (held for use in the supply of goods) and it is expected to be used for about 50 years (in more than one period).

Conclusion

The showroom asset is an item of the brick manufacturer's PPE.

Example 3: Administration building

The brick manufacturer purchased a building from which to administer the entity's business (head office building). The head office building houses the entity's accounting and human resources staff. The manufacturer expects to use its head office building for about 50 years.

The first question—is the head office building an asset?

The head office building is an asset of the manufacturer—it is a physical resource (a brick, mortar, wood and glass structure) purchased by the manufacturer (past event) and used at the manufacturer's discretion (control) to house its accounting and human resources staff, whose work is expected to contribute to the flow of cash (future economic benefits) from the manufacturer's customers to the manufacturer. In other words, the head office building houses those that administer the operations that indirectly contribute to processes that ultimately result in the receipt of cash from the entity's customers for the sale of bricks.

The second question—is the head office building asset an item of PPE?

The brick manufacturer's head office building clearly satisfies the definition of an item of PPE—it is made of bricks, mortar, wood and glass (it is tangible), it is used to house those who administer the entity's manufacturing operations (held for administration purposes) and it is expected to be used for about 50 years (in more than one period).

Conclusion

The head office building asset is an item of the brick manufacturer's PPE.

Useful information about PPE

To consider the information about an entity's PPE, and any changes in that PPE, that would be useful to existing and potential investors and creditors, consider the following questions: What is the economic rationale for acquiring PPE? In other words, why do manufacturers buy factories, why do retailers buy retail outlets and why do many in the service industry buy the building from which they operate? How do entities generate net cash inflows from PPE? When existing and potential investors, lenders and other creditors make decisions about the reporting entity, with regards buying, selling or holding equity and debt instruments and providing or settling loans and other forms of credit, what information about an entity's PPE do you think would be capable of making a difference? For example, if you were considering buying shares in an entity that held significant PPE, what information about the entity's PPE would you find most useful in assessing the entity's prospects for future net cash inflows? Can that information be faithfully represented (ie complete, neutral and free from error) and is it cost-beneficial to do so?

Discussion questions

For each of the following four scenarios, answer these questions:

- (a) *What information about that entity's PPE would you find useful?*
- (b) *Why do you think that information would be useful?*

Scenario 1: you are deciding whether to buy shares in a machine-intensive manufacturing business.

Scenario 2: you are deciding whether to renew a loan to a business that develops computer programs. That business' only significant item of PPE is the building that it owns and from which it operates.

Scenario 3: you are deciding whether to supply envelopes (that you manufacture) on credit to a mailing house. The business' only significant item of PPE is the building that it owns and from which it operates.

Scenario 4: you are deciding whether to sell shares that you have held for more than a decade in a cattle farming business. The business' only significant item of PPE is the farmland that it purchased over 20 years ago in an area that is now surrounded by the financial centre of a rapidly developing emerging economy.

Recognition of PPE

The recognition principle—an item of PPE is recognised as an asset (in other words, it is included in the statement of financial position) when:

- (a) it is probable that future economic benefits associated with the item will flow to the entity; and
- (b) the cost of the item can be reliably measured (IAS 16, paragraph 7).

It is usually not difficult to determine when an item of PPE must be recognised. The first recognition criterion is usually satisfied when the PPE first satisfied the definition of an asset of the entity (see above), because the ultimate purpose for which entities usually acquire PPE is to generate income directly (eg by using a machine to manufacture goods for sale) or indirectly (eg an entity's head office building houses the staff who administer the business that generates the cash inflows) from their use. In other words, management of a business would usually not purchase PPE unless it is probable that in using it future economic benefits will flow to the business.

The second recognition criterion is also usually satisfied when the item of PPE first meets the definition of an asset of the entity (see above). In some cases, the cost of an item of PPE can be measured precisely (eg when an entity acquires a ready-to-use photocopier for use by its administration staff in exchange for CU1,200 cash). In other cases, the cost must be estimated. For example, the cost of a retail outlet constructed (by a brick manufacturer) would include the cost of the self-manufactured bricks used (the cost of those bricks includes numerous estimates, eg an allocation of fixed production overhead including depreciation of the kiln) and borrowing costs allocated in accordance with IAS 23 Borrowing Costs, to mention but a few. However, it is important to remember that the use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability (see paragraph 4.41 of the *Conceptual Framework*). Consequently, such estimates do not prevent recognition of an item as an asset.

Measurement of PPE

An item of PPE is initially measured at its cost. It is usually not difficult to measure the cost of an item of PPE. If the brick manufacturer purchased a ready-to-use kiln from a portable kiln supplier in exchange for cash on delivery, then the cost of the kiln is the amount of cash paid. However, if the brick manufacturer constructed a bespoke (sometimes called custom-made) kiln for use by the entity's staff, then its cost would be more difficult to determine. The cost of the custom-made kiln includes all costs directly attributable to bringing the kiln to the location and condition necessary for it to operate as intended by management, for example, direct material used in construction, labour, site preparation, installation, assembly and testing of functionality. Significant estimates and other judgements may be necessary in determining some components of the cost of self-constructed items.

An item of property, plant and equipment (except land) has either a limited period over which the asset is expected to be economically usable or a limited number of production units that can be expected to be obtained from the asset. Consequently, the cost (or a substitute for cost) of an item of PPE is recognised as an expense (or as part of the cost of another asset, eg inventory) as it is consumed by the entity. For example, if an entity pays CU1,000 for a machine that is expected to make 100 units of product before being scrapped,⁽⁹⁾ CU10

⁽⁹⁾ Note: the estimation of total output from the machine is a judgement made by management.

depreciation (ie one hundredth of CU1,000) is allocated to the cost of each unit of inventory produced (a separate asset).

If the entity expects to recover part of the carrying amount of the machine (eg after it has produced 80 units) through the sale of the machine (rather than through the sale of the goods produced by that machine ie use of the machine), then the amount of the machine that is allocated to depreciation is reduced by the estimated amount that the entity would currently (ie today) obtain from the disposal of the machine if it were already of the age and in the condition expected at the anticipated time of sale (say CU120). In this example depreciation of CU11 (ie one eightieth of CU1,000 cost less CU120 residual value) is allocated from the machine to each unit of inventory produced (a separate asset) and the remaining carrying amount is derecognised when the machine is sold. The useful life of the machine is 80 units—the number of production units expected to be obtained from the asset by the entity (or, in other cases, the period over which an asset is expected to be available for use by the entity). So far these notes have described the cost model of measuring PPE after initial recognition.

However, PPE with a reliably measurable fair value can be measured after initial recognition using the revaluation model (this is an accounting policy choice—see paragraph 31 of IAS 16). Fair value is a current measure—the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (paragraph 6 IAS 16). The revalued amount is the asset's fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Derecognition of PPE

If the machine is sold for CU130 when its carrying amount is CU120, the entity derecognises the CU120 carrying amount of the machine (asset) and recognises CU130 increase in cash (asset) and income of CU10 (described as a gain on the sale of PPE) in comprehensive income. Recognising income at the net amount (CU10, ie CU130 less CU120) rather than the gross amount (CU130) is an exception to the general principle in IFRSs that does not permit offsetting (see paragraph 32 of IAS 1).

Estimates and judgements

To a large extent, financial reports are based on estimates, judgements and models rather than exact depictions of reality (paragraph OB11 of the *Conceptual Framework*). Providing relevant information about an entity's PPE requires estimates and other judgements. For example, measuring the cost of an item of PPE (particularly if it is self-constructed) requires many estimates. The subsequent allocation of depreciation involves further judgements and estimates including:

- allocating the cost of the asset to particular major components;
- determining the most appropriate depreciation method;
- estimating useful life; and
- estimating residual value.

As explained below, none of the judgements listed above are free of value judgements and choices:

Only if the major components of an item of PPE have significantly different patterns of consumption of economic benefits does an entity allocate the initial cost of the asset to

its major components and depreciate each such component separately over its useful life. For example, it would be appropriate to depreciate separately the airframe and engines of an aircraft when the significant components have different useful lives because depreciating the aircraft as a whole using an approximation technique (such as a weighted average useful life for the item as a whole) would not result in depreciation that faithfully represents an entity's expectations for the significant parts.

An entity must select a depreciation method that reflects the pattern in which it expects to consume the asset's future economic benefits. Possible depreciation methods include the straight-line method, the diminishing balance method and a method based on usage, such as the units of production method.

'Useful life' refers to the period that the asset is expected to be used by the entity. Consequently, that period can be shorter than (but no longer than) an asset's total economic life—the period over which an asset is expected to be economically usable by one or more users. For example, if an entity expects to use a photocopier for two years (measured from the date of purchase) but the photocopier could be used by one or more users for five years, then the photocopier's useful life is two years and its economic life is five years.

The residual value of an item of PPE is calculated in the following way: if the item was at the end of its useful life today, and was in the condition expected at the end of its useful life, what would the entity receive today from selling that item (net of disposal costs)? If there is not an active market for such items of PPE, then judgement is used to estimate an item's residual value.

Stage 1: Tutorial

An entity owns and operates a ferry that transports passengers, their motor vehicles and goods between the mainland and an island. The ferry service is the main business of the entity.

On 1 January 20X1 the entity purchases a new ferry for CU1,000,000 cash. The ferry comprises two main components—the main structure (allocated cost CU800,000 and an estimated remaining useful life of 20 years with no residual value) and the engine (allocated cost CU200,000 and an estimated remaining useful life of 10 years with no residual value).

The entity depreciates the ferry using the straight-line method.

On 31 December 20X4 a storm severely damages the engine. Consequently, the entity scraps the engine. On 1 January 20X5 the entity replaces the engine at a cost of CU300,000. The new engine is expected to propel the ferry for the remaining estimated useful life of the ferry, after which the ferry and the engine will be scrapped.

On 31 December 20X5, in response to an unsolicited offer, the entity disposes of the ferry for CU610,000.

Part A:

What information about that entity's ferry would a potential investor find useful? Why do you think that information would be useful?

Part B:

Is the ferry an asset of the entity?

Part C:

Describe how the ferry satisfies the definition of property, plant and equipment.

Part D:

Prepare accounting entries relating to the ferry in the accounting records of the entity from 1 January 20X1 to 31 December 20X5.

Part E:

List some of the estimates and judgements that the management of the entity would have made in accounting for the ferry.

Stage 1: Answer to tutorial questions on accounting for property, plant and equipment

Part A:

What information about that entity's ferry would a potential investor find useful? Why do you think that information would be useful?

A potential investor must decide whether to buy shares in the entity that owns and operates the ferry. To inform that decision, the potential investor assesses the potential returns from investing in the entity that owns and operates the ferry. Those potential returns depend on the entity's prospects for future net cash inflows. Consequently, the potential investor assesses the amount, timing and uncertainty of (or the prospects for) future net cash inflows to the entity.

To make that assessment a potential investor needs information about the resources of the entity (in this case the ferry and the entity's other assets), claims against the entity and how efficiently and effectively the entity's management and governing board have discharged their responsibilities to use the entity's resources (paragraph OB4 of the *Conceptual Framework*).

Relevant information (ie information capable of making a difference in the investment decision) about the ferry asset that can be faithfully represented (ie information that is complete, neutral and free from error) would be useful to a potential investor when deciding whether to invest in (buy shares in) the entity that owns and operates the ferry.

The entity generates income (ultimately cash inflows) by using its ferry (an asset) to transport passengers, their vehicles and goods between the mainland and an island. Consequently, the ferry is likely to be the entity's most significant asset and the depreciation expense (akin to the consumption of the carrying amount of the ferry) is likely to be significant. The gross income (revenue) from operating the ferry and the costs of operating the ferry (eg fuel) are also likely to be useful.

At the time of purchase, the cost of the ferry would provide information about the 'value' of the ferry that the entity intends to recover through use, sale, or a combination of both use and sale. As time passes, particularly for long-lived assets such as the ferry, whose current value is likely to significantly diverge from its cost over time, potential investors are likely to be increasingly interested in a current measure of the value of the ferry (rather than its historical cost), eg its fair value (the amount for which the asset could be exchanged between knowledgeable, willing parties in an arm's length transaction) (see paragraph 6 of IAS 16).

Because the ferry has a limited period (20 years for the main structure and 10 years for the engine) over which the entity expects to obtain benefit from the asset, an expense is recognised as the future benefits associated with the asset are 'consumed' by the entity in ferrying passengers, their vehicles and goods. Consequently, a potential investor would want information about the extent to which the future benefits associated with the ferry have been consumed.

Providing relevant and faithfully represented information about an entity's property, plant and equipment in accordance with IFRSs and the *IFRS for SMEs* often requires judgement (see the answer to part D below).

Note: general purpose financial reports provide information to help existing and potential investors, lenders and other creditors to estimate the value of the reporting entity. However,

general purpose financial reports do not and cannot provide all the information that existing and potential investors, lenders and other creditors need or want. Those users need to consider pertinent information from other sources, for example, general economic conditions and expectations, political events and political climate, and industry and company outlooks (paragraph OB6 of the *Conceptual Framework*). Therefore, in assessing the entity’s potential to generate future net cash inflows, the potential investor would probably also be interested in non-financial information that is typically not provided in financial statements. For example, in this tutorial the potential investor would find the following of interest: changes in the population on the island and the mainland, changes in their travel habits (eg a shift from air to sea transport or vice versa) and other developments (eg possible development of a bridge or tunnel between the mainland and the island).

Part B:

Is the ferry an asset of the entity?

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (paragraph 4.4(a) of the *Conceptual Framework*).

The ferry is an asset of the entity. It is a resource that is controlled by the entity (evidenced by unencumbered legal ownership and control by the entity’s management over the way the ferry is used) as a result of past events (purchasing the ferry) and from which future economic benefits are expected to flow to the entity (cash collected from customers for ferrying them, their vehicles and their goods between the mainland and the island).

Part C:

Describe how the ferry satisfies the definition of property, plant and equipment

The entity’s ferry asset satisfies the definition of an item of property, plant and equipment (PPE) as follows:

- it is a tangible asset because it has physical substance (eg steel and wood) (see also the answer to Part B above);
- it is held for the provision of services (ie transporting passengers, their vehicles and goods between the mainland and an island); and
- it is expected to be used by the entity during more than one period (20 years from 1 January 20X1).

Part D:

Prepare accounting entries to record the ferry in the entity’s accounting records from 1 January 20X1 to 31 December 20X5.

1 January 20X1

Dr Property, plant and equipment (PPE)—cost (asset)	CU1,000,000	
Cr Cash (asset)		CU1,000,000

To recognise the acquisition of the ferry.

20X1

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Dr Profit or loss—depreciation (expense)	CU60,000 ^(a)	
Cr PPE—accumulated depreciation/impairment (asset)		CU60,000

To recognise depreciation expense allocated for the year ended 31 December 20X1 on the ferry.

20X2

Repeat the journal entry above to recognise CU60,000 depreciation expense allocated for the year ended 31 December 20X2 on the ferry.

20X3

Repeat the journal entry above to recognise CU60,000 depreciation expense allocated for the year ended 31 December 20X3 on the ferry.

20X4

Repeat the journal entry above to recognise CU60,000 depreciation expense allocated for the year ended 31 December 20X4 on the ferry.

31 December 20X4

Dr Profit or loss—impairment (expense)	CU120,000 ^(d)	
Cr PPE—accumulated depreciation/impairment (asset)		CU120,000

To recognise the impairment loss for the flood-damaged ferry at 31 December 20X4.

1 January 20X5

Dr PPE—cost (asset)	CU300,000	
Cr Cash		CU300,000

To recognise the acquisition of the new ferry engine.

31 December 20X5

Dr Profit or loss—depreciation (expense)	CU58,750 ^(f)	
Cr PPP—accumulated depreciation/impairment (asset)		CU58,750

To recognise depreciation expense allocated for the year ended 31 December 20X5 on the ferry.

31 December 20X5

Dr Cash at bank	CU910,000	
Dr PPP—accumulated depreciation/impairment (asset)	CU218,750 ^(h)	
Cr PPP—cost		CU1,100,000 ⁽ⁱ⁾
Cr Profit or loss—gain on sale (revenue)		CU28,750 ⁽ⁱ⁾

To recognise sale of ferry at 31 December 20X5.

Calculations:

- (a) $\text{CU}40,000^{(b)}$ depreciation of main structure + $\text{CU}20,000^{(c)}$ depreciation of engine = $\text{CU}60,000$
- (b) $\text{CU}800,000$ cost of main structure \div 20-year useful life = $\text{CU}40,000$ depreciation per year.
- (c) $\text{CU}200,000$ cost of engine \div 10-year useful life = $\text{CU}20,000$ depreciation per year.
- (d) $\text{CU}200,000$ cost of engine less $\text{CU}80,000^{(e)}$ accumulated depreciation of engine at 31 December 20X4 before impairment = $\text{CU}120,000$ carrying amount on 31 December 20X4 before scrapping the engine.
- (e) $\text{CU}20,000^{(c)}$ depreciation per year \times 4 years (20X1–20X4) = $\text{CU}80,000$ accumulated depreciation at 31 December 20X4 (before impairment).
- (f) $\text{CU}40,000^{(b)}$ depreciation of main structure + $\text{CU}18,750^{(g)}$ depreciation of new engine = $\text{CU}58,750$
- (g) $\text{CU}300,000$ cost of new engine \div 16-year remaining useful life = $\text{CU}18,750$ depreciation per year.
- (h) $\text{CU}200,000$ accumulated depreciation of the main structure + $\text{CU}18,750$ accumulated depreciation of the new engine = $\text{CU}218,750$.
- (i) $\text{CU}800,000$ cost of main structure + $\text{CU}300,000$ cost of new engine = $\text{CU}1,100,000$.
- (j) $\text{CU}910,000$ proceeds of sale – $\text{CU}881,250$ carrying amount of main structure and engine = $\text{CU}28,750$.

Part E:

List some of the estimates and judgements that the management of the entity would have made in accounting for the ferry.

Management would have used judgement to:

1. Allocate the $\text{CU}1,000,000$ cost of the ferry between the engine and the main structure.
2. Determine the most appropriate depreciation method.
3. Estimate the useful life of each component—the original engine, the main structure and the new engine.
4. Determine the recoverable amount of the flood damaged ferry engine.

Because the entity intends to use the ferry for its entire useful life (in the absence of evidence to the contrary) its residual value is nil. Thus, there is no significant exercise of judgement in relation to residual value.

Stage 2 Teaching materials

In this part we present material teaching materials that could be used in Stage 2 classes. The materials include:

- Reference materials – reading list for review before class
- Class materials – to assist with teaching on PPE
- Notes for students – extracts from the IASB’s *Conceptual Framework* and the main principles in IAS 16 *Property, Plant and Equipment* and Section 17 *Property, Plant and Equipment* of the *IFRS for SMEs*;
- Examples and discussion questions relating to identification, recognition and measurement; derecognition and judgements and estimates.
- Tutorial questions.

These Stage 2 teaching materials aim to assist teachers to develop students’ ability to understand the judgements and other estimates in IFRS. By discussing the issues and examples set out below and setting questions, tasks and tutorials involving judgement and estimation, a teacher provides a meaningful learning experience that contributes to a cohesive understanding of IFRSs and begins to develop the students’ ability to make the judgements that are necessary to carry out accounting for PPE under IFRS.

Stage 2: Reference material

Conceptual Framework for Financial Reporting

IAS 16 *Property, Plant and Equipment* and Section 17 *Property, Plant and Equipment* of the *IFRS for SMEs*

IAS 23 *Borrowing Costs* and Section 25 *Borrowing Costs* of the *IFRS for SMEs*

IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*

IFRS 13 *Fair Value Measurement*

IFRIC 1 *Changes in Existing Decommissioning, Restoration and Similar Liabilities*

IFRIC 18 *Transfers of Assets from Customers*

Stage 2: Class material

- *A Guide through IFRS* (including the full consolidated text of IFRSs and accompanying documents issued by the IASB with extensive cross-references and other annotations).
- The *IFRS for SMEs* (including the Basis for Conclusions on the *IFRS for SMEs*).
- The financial statements of selected entities that have significant amounts of property, plant and equipment (PPE) and prepare their financial statements in compliance with IFRSs.
- Issues about PPE considered (or being considered) by the IFRS Interpretations Committee (Note: the reasons why the Committee did not add particular items to its agenda are included in footnotes in the text *A Guide through IFRSs*).

- Issues relating to PPE, if any, being considered by the IASB.
- Relevant published IFRS regulatory decisions relating to PPE.
- Relevant press coverage about the IFRS reporting of PPE.
- Notes for students (an example of a set of notes is provided below).
- In-class or self-study discussion questions (some examples are provided below).
- Possible assignment questions.

Stage 2: Notes for students

Objective

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (paragraph OB2 of the *Conceptual Framework*). Other aspects of the *Conceptual Framework* (a reporting entity concept, the qualitative characteristics of, and the constraint on, useful financial information, elements of financial statements, recognition, measurement, presentation and disclosure) flow logically from the objective (see paragraph OB1 of the *Conceptual Framework*).

IFRSs are based on the *Conceptual Framework* (paragraph 8 of the Preface to IFRSs). The objective of IAS 16 *Property, Plant and Equipment* is to prescribe the accounting treatment for property, plant and equipment (PPE) so that users of the financial statements can discern information about an entity's investment in its PPE and the changes in such investment (see paragraph 1 of IAS 16).

To assess an entity's prospects for future net cash inflows, existing and potential investors, lenders and other creditors need information about the resources of the entity, claims against the entity, and how efficiently and effectively the entity's management and governing board have discharged their responsibilities to use the entity's resources (see paragraph OB4 of the *Conceptual Framework*). For those entities for which PPE is a significant resource (eg a manufacturer's plant, a car rental company's fleet, a retailer's outlets and the office buildings of some entities in the service industry), depreciation expense (akin to the consumption of the carrying amount of the PPE) is often a significant item in measuring their financial performance.

Relevant information (ie information that is capable of making a difference in the decisions made by users) and faithfully represented information (ie information that is complete, neutral and free from error) about many entities' PPE is likely to be useful to existing and potential investors, lenders and other creditors when making decisions about the reporting entity. Providing relevant and faithfully represented information about an entity's PPE in accordance with IFRSs and the *IFRS for SMEs* often requires judgement.

Discussion questions

For each of the following four scenarios, answer these questions:

- (a) What information about that entity's PPE would you find useful?
- (b) Why do you think that information would be useful?

Scenario 1: you are deciding whether to buy shares in a machine-intensive manufacturing business.

Scenario 2: you are deciding whether to renew a loan to a business that develops computer programs. That business' only significant item of PPE is the building that it owns and from which it operates.

Scenario 3: you are deciding whether to supply envelopes (that you manufacture) on credit to a mailing house. The business' only significant item of PPE is the building that it owns and from which it operates.

Scenario 4: you are deciding whether to sell shares that you have held for more than a decade in a cattle farming business. The business' only significant item of PPE is the farmland that it purchased over 20 years ago in an area that is now surrounded by the financial centre of a rapidly developing emerging economy.

Scope

PPE are tangible assets that:

- (a) are held for use in the production or supply of goods (eg a retailer's point-of-sale equipment) or services (eg an architect's tools), for rental to others (eg a car hire's rental fleet) or for administrative purposes (eg computer equipment used by an entity's administration staff); and
- (b) are expected to be used during more than one period (see paragraph 6 of IAS 16, examples added).

Information about a reporting entity's financial position (the entity's resources and claims against the entity) and financial performance during a period (changes in its economic resources and claims other than by obtaining additional resources directly from investors and creditors) is useful in assessing the entity's past and future ability to generate net cash inflows. That information indicates the extent to which the reporting entity has increased its available economic resources, and thus indicates its capacity for generating net cash inflows through its operations rather than by obtaining additional resources directly from investors and creditors (see paragraphs OB12 and OB18 of the *Conceptual Framework*).

Example 1: Manufacturing equipment

An entity built a nuclear power plant with which it generates electricity that it sells to its customers (members of the general public). The entity operates the plant in accordance with rigorous conditions imposed by the government of the jurisdiction in which it operates. Failure to comply with the operating procedures would potentially result in the government agency revoking the entity's licence to operate the plant. The entity expects to operate the power generator in compliance with the licence conditions for about 50 years before decommissioning the nuclear plant.

The first question—is the power plant an asset?

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (see paragraph 4.4(a) of the *Conceptual Framework*).

The plant is an asset of the power generator—it is a physical resource constructed by the power generator (past event) and, subject to compliance with the licensing conditions, is used at the power generator’s discretion (control) to generate electricity, the sale of which is expected to result in the flow of cash (future economic benefits) from the power generator’s customers to the power generator.

Note: the rigorous licensing conditions within which the entity operates the nuclear power plant do not in themselves prevent the entity from controlling the plant.

The second question—is the power plant asset an item of PPE?

The power generator’s nuclear power plant clearly satisfies the definition of an item of PPE—it has physical form (it is tangible), it is used to generate electricity (held for use in production) and it is expected to be used for about 50 years (in more than one period).

Conclusion

The nuclear power plant (asset) is an item of the power generator’s PPE.

Example 2: Exploration equipment

An entity purchases a deep-sea drilling rig to explore for oil and gas under a two-year licence from a government in a specified area of that country’s territorial waters. If the entity finds oil or gas, or both, within the two-year exploratory drilling licence period, the government will pay the entity a single payment equal to 1 per cent of the estimated market value of the oil and gas reserves found. If no oil or gas is found, then the entity receives nothing. Geological surveys of the area suggest that there is only a 10 per cent probability that there is oil and gas to be found in the area covered by the licence. Moreover, if oil and gas exist in the licenced area, management estimates that there is only a 20 per cent chance that it will be found by the entity during the licence period. In accordance with the licence conditions, the drilling rig must be dismantled and recycled at the end of the two-year licence period.

The first question—is the exploration rig an asset?

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (see paragraph 4.4(a) of the *Conceptual Framework*).

The rig is an asset of the exploration entity—it is a physical resource purchased by the entity (past event) and it is used at the exploring entity’s discretion (control) to find oil and gas in a specified area, **the discovery of which is expected (there is a greater than zero probability of a cash inflow)** to result in the flow of cash (future economic benefits) from the licensing government to the exploration entity.

The second question—is the rig asset an item of PPE?

The exploring entity’s rig clearly satisfies the definition of an item of PPE—it has physical form (it is tangible), it is used to discover oil and gas beneath the seabed (held for the provision of a service) and it is expected to be used for two years (in more than one period).

Conclusion

The rig (asset) is an item of the oil and gas exploration entity's PPE.

Note: even though the rig satisfies the definition of an item of PPE, its recognition and measurement is explicitly excluded from the scope of IAS 16 (see paragraph 3(c). IAS 16 does not apply to recognition and measurement of exploration and evaluation assets as discussed below).

Example 3: Transfer of assets from customers

In some circumstances, significant judgement may be necessary to determine whether a particular transaction results in the transfer of an item of PPE to the entity—see examples 1–3 set out in paragraphs IE1 to IE9 of the illustrative examples that accompany IFRIC 18 *Transfers of Assets from Customers*, which focus on whether the definition of an asset is satisfied in various arrangements that transfer an asset to the entity from a customer.

The fundamental issue in those examples is judging who controls the asset in those arrangements.

Although at this conceptual level there is little distinction between the recognition and measurement requirements for different types of assets and liabilities⁽¹⁰⁾, at the standards level there are significant differences. For example, after initial recognition PPE is measured using a cost model or a revaluation model (an accounting policy choice), while investment property⁽¹¹⁾ is measured using the cost model or the fair value model (an accounting policy choice in full IFRSs but circumstance-driven⁽¹²⁾ in the *IFRS for SMEs*). Inventory⁽¹³⁾ is measured at the lower of its cost and net realisable value, while a biological asset—a living animal or plant—that relates to agricultural activity⁽¹⁴⁾ is measured at fair value less costs to sell (paragraphs 12 and 13 of IAS 41 *Agriculture*).

Furthermore, financial statements portray the financial effects of transactions and other events by grouping them into broad classes according to their economic characteristics. These broad classes are termed the elements of financial statements. The elements directly related to the measurement of financial position in the statement of financial position are assets, liabilities and equity. The elements directly related to the measurement of performance in the statement

⁽¹⁰⁾ The *Conceptual Framework* merely lists a number of different measurement conventions (rather than measurement concepts), including historical cost, current cost, realisable value and present value (see paragraph 4.55 of the *Conceptual Framework*). Apart from considering the objective of financial statements and the qualitative characteristics of financial information the *Conceptual Framework* does not provide guidance on when particular measurements should be used.

⁽¹¹⁾ Investment property is property (land or a building—or part of a building—or both) held (by the owner or by the lessee under a finance lease) to earn rentals or for capital appreciation or both, rather than for: (a) use in the production or supply of goods or services or for administrative purposes; or (b) sale in the ordinary course of business (see paragraph 5 of IAS 40 *Investment Property*).

⁽¹²⁾ If the fair value of an investment property can be measured reliably without undue cost or effort on an ongoing basis it is measured at its fair value. Other investment property is accounted for as PPE at cost less accumulated depreciation and accumulated impairment, if any.

⁽¹³⁾ Inventories are assets: (a) held for sale in the ordinary course of business; (b) in the process of production for such sale; or (c) in the form of materials or supplies to be consumed in the production process or in the rendering of services (see paragraph 6 of IAS 2 *Inventories*).

⁽¹⁴⁾ Agricultural activity is the management by an entity of the biological transformation—the process of growth, degeneration, production, and procreation that cause qualitative or quantitative changes in a biological asset—and harvest of biological assets for sale or for conversion into agricultural produce or into additional biological assets (see paragraph 5 of IAS 41 *Agriculture*).

of comprehensive income are income and expenses (see paragraph 4.2 of the *Conceptual Framework*).

Presentation

The presentation of these elements (eg assets) in the statement of financial position and the statement of comprehensive income involves a process of subclassification. For instance, assets and liabilities may be classified by their nature or function in the business of the entity in order to display information in the manner most useful to users for the purposes of making economic decisions (see paragraph 4.3 of the *Conceptual Framework*). For example, an entity's asset (land) is classified as PPE (if it is held for use in the production or supply of goods or services or for administration purposes), investment property (if it is held to earn lease rentals for capital appreciation or both) or inventory (if it is held for sale in the ordinary course of business).

Judgements and estimates

It is usually not difficult to distinguish PPE from other assets. However, in some cases significant judgement may be required, for example:

- Some properties comprise a portion that is held to earn rentals or for capital appreciation and another portion that is held for use in the production or supply of goods or services or for administrative purposes. If these portions could be sold separately (or leased out separately under a finance lease), an entity accounts for the portions separately. If the portions could not be sold separately, the property is investment property only if an insignificant portion is held for use in the production or supply of goods or services or for administrative purposes.
- In some cases, an entity provides ancillary services, for example security and maintenance services, to the occupants of a property it holds. It may be difficult to determine whether ancillary services are so significant that a property does not qualify as investment property. In most cases security and maintenance services will be insignificant and hence the building would be classified as investment property. However, some companies rent out fully furnished offices including a whole range of services such as information technology systems and administration services (eg many hotels). Such arrangements are in the nature of service provision and the property would be classified as owner-occupied and accounted for as PPE. There are several instances between these extremes where it may be difficult to judge whether the services are insignificant.

When significant judgement is needed to determine whether a property qualifies as investment property, an entity should develop criteria so that it can exercise that judgement consistently in accordance with the definition of investment property.

Classification

The concept for the presentation (subclassification) of the asset 'land' in the statement of financial position (as PPE, investment property or inventory) depends on the function of the land in the business of the entity, because that subclassification displays information about land in a manner that is useful for the purposes of making economic decisions.

Note: land related to agricultural activity is accounted for as PPE or investment property depending on which standard (IAS 16 or IAS 40 *Investment Property*) is appropriate in the circumstances (see paragraph B55 of the Basis for Conclusions on IAS 41).

Consistently with the function (usage-basis) subclassification concept, land is transferred from one classification to another when the purpose for which it is held changes. For example, an investment property becomes PPE when it is occupied by its owner (see paragraph 57(a) of IAS 40). Similarly, PPE becomes inventory at the commencement of development with a view to sale. A decision to sell the land without redevelopment would not result in the PPE being reclassified as inventory. However, provided that the entity is demonstrably committed to a plan to sell the land without redevelopment when that land becomes available for immediate sale in its present condition (subject only to terms that are usual and customary for sales of such assets and its sale is highly probable) then it would be reclassified as a non-current asset held for sale because its carrying amount will be recovered principally through a sale transaction rather than through continuing use (see paragraphs 6–8 of IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*).

What if land is acquired for an undetermined future use? Land acquired for an undetermined purpose is classified as investment property (see paragraph 8(b) of IAS 40) because a subsequent decision to use such land as inventory or for development as owner-occupied property (PPE) would be an investment decision (paragraph B67(b)(ii) of the Basis for Conclusions on IAS 40).

Scope exclusions

Some items that meet the definition of PPE are explicitly excluded from the scope of IAS 16. These exceptions are rules that deviate from the general PPE classification principle. Such exceptions occur when another standard requires or permits a different accounting treatment for particular items that satisfy the definition of PPE (see paragraph 2 of IAS 16). Consequently, IAS 16 does not apply to:

- a) PPE classified as held for sale⁽¹⁵⁾ in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*;⁽¹⁶⁾
- b) biological assets⁽¹⁷⁾ related to agricultural activity⁽¹⁸⁾ (see IAS 41 *Agriculture*);⁽¹⁹⁾

⁽¹⁵⁾ The classification principle: an asset is held for sale when its carrying amount will be recovered principally through a sale transaction rather than continued use (see paragraph 6 of IFRS 5). To achieve comparability of classification between entities and convergence with US GAAP, and for avoidance of abuse, that principle is given effect to by prescriptive application guidance set out in paragraphs 7–14 of IFRS 5 (see paragraphs BC18–BC27 of the Basis for Conclusions on IFRS 5).

⁽¹⁶⁾ Providing information about assets to be disposed of assists users in assessing the timing, amount and uncertainty of future cash flows (see paragraph BC17 of the Basis for Conclusions on IFRS 5).

⁽¹⁷⁾ A biological asset is a living animal or plant (see paragraph 5 of IAS 41).

⁽¹⁸⁾ Agricultural activity is the management by an entity of the biological transformation and harvest of biological assets for sale or for conversion into agricultural produce or into additional biological assets (see paragraph 5 of IAS 41).

⁽¹⁹⁾ Providing information about biological assets *that relate to agricultural activity* assists users in assessing the timing, amount and uncertainty of future cash flows. Particular accounting and separate presentation of such assets results in useful information because ‘the nature of agricultural activity creates uncertainty or conflicts when applying traditional accounting models, particularly because the critical events associated with biological transformation (growth, degeneration, production, and procreation) that alter the substance of biological assets are difficult to deal with in accounting models based on historical cost and realisation’ (see paragraph B4 of the Basis for Conclusions on IAS 41).

- c) the recognition and measurement of exploration and evaluation assets (see IFRS 6 *Exploration for and Evaluation of Mineral Resources*); or
- d) mineral rights and mineral reserves such as oil, natural gas and similar non-regenerative resources.

However, the requirements of IAS 16 apply to items of PPE that an entity uses to develop or maintain (a) biological assets and (b) mineral rights and mineral reserves such as oil, natural gas and similar non-regenerative resources (see paragraph 3 of IAS 16) because items of PPE that an entity uses for these purposes possess the same characteristics as other items of PPE (paragraph BC 4 of the basis for Conclusions on IAS 16).

Example 1: Cattle and farm implements

An entity owns a herd of cattle that forms the breeding stock of its agricultural activities. The entity also owns a tractor and trailer that are used to transport feed to the cattle.

Although the cattle arguably meet the definition of PPE—they are tangible assets used in the production of calves in more than one accounting period—because of the specific exemption for biological assets related to agricultural activity they are accounted for as biological assets in accordance with IAS 41 *Agriculture*. They are outside the scope of IAS 16.

Note: even though the tractor and trailer are used in a farming operation they are classified as items of PPE. They are physical assets used in the supply of goods during more than one reporting period. The exception to the PPE classification principle does not apply because the tractor and trailer are not biological assets related to agricultural activity.

Example 2: Land on which trees are grown for timber

An entity owns and manages a pine plantation (the trees and the land on which they are growing).

Although the trees arguably satisfy the definition of PPE—they are tangible assets used in the production of logs in more than one accounting period—because of the specific exemption for biological assets related to agricultural activity they are accounted for as biological assets in accordance with IAS 41 (ie the trees are outside the scope of IAS 16).

Note: even though the trees in the pine plantation are attached to and growing on the entity's land, the land is classified as an item of PPE. It is a physical asset used in the supply of goods (logs—as a result of the trees growing upon it) during more than one reporting period. The exception from the PPE classification principle does not apply to the land because the land is neither a living animal nor a living plant. Consequently, although it is related to agricultural activity, the land cannot be accounted for in accordance with IAS 41 because it is not a biological asset as defined in paragraph 5 of IAS 41.

Example 3: Guard dogs

A security firm owns guard dogs that work with its security personal to provide personal security services.

The guard dogs meet the definition of biological assets—a living animal (see paragraph 5 of IAS 41)—and the definition of PPE in IAS 16 because they are assets used in the provision of security services in more than one accounting period.

The biological asset exemption from the scope of IAS 16 does not apply to the guard dogs because they are not related to agricultural activity (ie although the dogs are controlled by the entity, their biological transformation—the process of growth, degeneration, production, and procreation that causes qualitative or quantitative changes in a biological asset—is not managed by an entity for harvest of biological assets for sale or for conversion into agricultural produce or into additional biological assets). Consequently, the guard dogs are within the scope of IAS 16.

Example 4: Bird breeder

The birds belonging to a breeder of exotic parrots satisfy the definition of biological assets—a living animal (see paragraph 5 of IAS 41). They arguably also satisfy the definition of PPE in IAS 16 because they are assets used in the provision of goods in more than one accounting period.

The biological asset exemption from the scope of IAS 16 applies to the parrots because they are related to agricultural activity (ie the biological transformation—the process of growth, degeneration, production, and procreation that cause qualitative or quantitative changes in a biological asset—of the birds is managed by an entity for sale or for conversion into additional biological assets). Consequently they are not within the scope of IAS 16 (they are within the scope of IAS 41).

Example 5: Bird breeding zoo

An entity generates two significant revenue streams from its exotic parrots: (i) sale of birds bred (a typical exotic-bird breeding operation) and (ii) tickets sold to members of the general to observe the birds (an entertainment operation).

The birds satisfy the definition of biological assets—a living animal (see paragraph 5 of IAS 41). They arguably also satisfy the definition of PPE in IAS 16 because they are assets used in the provision of goods in more than one accounting period.

Because the breeding operation is significant, the biological asset exemption from the scope of IAS 16 applies because they are related to agricultural activity (ie the biological transformation—the process of growth, degeneration, production, and procreation that cause qualitative or quantitative changes in a biological asset—of the birds is managed by an entity for sale or for conversion into additional biological assets). Consequently they are not within the scope of IAS 16 (they are within the scope of IAS 41).

Note: if the breeding operation was insignificant (eg only incidental to the entertainment operation) then, in the absence of evidence to the contrary, the exemption would not apply and the birds would be accounted for as PPE in accordance with IAS 16. In other zoological operations, significant judgement may be required to determine whether the breeding operation is significant.

Examples 6–8: PPE held for sale

See examples 1–3 set out in the guidance on implementing IFRS 5 (that accompanies but does not form part of IFRS 5), which focus on when the definition of ‘held for sale’ is satisfied in various circumstances. Judging when an asset or disposal group⁽²⁰⁾ is held for sale is important because assets held for sale are classified and measured separately from other non-current assets.

Unit of account

The unit of account is the unit of measure for recognition of an item, a collection of items or a part of an item. IAS 16 does not prescribe the unit of measure for recognition (ie what constitutes an item of PPE). Consequently, judgement is required in applying the recognition criteria to an entity’s specific circumstances. It may be appropriate to aggregate individually insignificant items, such as moulds, tools and dies, and to apply the criteria to the aggregate value (see paragraph 9 of IAS 16). In making those judgements, management would be mindful of the objective of general purpose financial reporting (see above) and the concepts that flow from that objective (eg the qualitative characteristics of financial information, particularly relevance and faithful representation).

Example 9: Manufacturing plant

An entity buys a plant that manufactures egg boxes from waste paper. The plant comprises a factory building (which has 30 years’ remaining economic life, except that the roof will need to be replaced about 10 years after the date of purchase), a waste paper shredding machine, a shredded paper pulping machine, five independently operating automotive heisters (that transport the raw materials and finished goods in the factory) and a thousand low value reusable moulds that mould the paper pulp into egg boxes. At the date of acquisition the respective fair values are as follows:

- factory building CU1,000,000 (structure = CU800,000 and roof = CU200,000)
- shredding machine CU2,000,000
- pulping machine CU6,000,000
- heisters between CU15,000 and CU25,000 each (CU80,000 in aggregate)
- moulds between CU1 and CU100 each (CU20,000 in aggregate).

Identify the items of PPE acquired in the business combination in accordance with IAS 16.

Because IAS 16 does not specify the unit of account for an item of PPE, judgement is used in the light of the entity’s specific circumstances. In making such judgements, management is mindful of the objective of general purpose financial reporting (see above) and the concepts that flow from that objective (eg the qualitative characteristics of financial information, particularly relevance and faithful representation).

At the date of acquisition it is highly likely that the value of the factory building, waste paper shredding machine and the shredded paper pulping machine are individually

⁽²⁰⁾ See the definition of a disposal group in Appendix A *Defined terms* of IFRS 5.

significant. Conversely, none of the low-value moulds whose individual values do not exceed CU100 are likely to be individually significant. Consequently, they could be classified collectively as a single item of PPE. Furthermore, if the aggregate value of the moulds is immaterial (another judgement), then the collection of moulds need not be identified as a separate item of PPE.

Determining whether the heisters are individually insignificant probably requires more judgement. The highest value heister is CU25,000. All facts and circumstances (not only the heister's value relative to the total cost of the business combination) would need to be considered in making that judgement.

Recognition

The objective of general purpose financial reporting⁽²¹⁾ forms the foundation of the *Conceptual Framework*. Other aspects of the *Conceptual Framework*, including recognition—a reporting entity concept, the qualitative characteristics of, and the constraint on, useful financial information, elements of financial statements, recognition, measurement, presentation and disclosure—flow logically from the objective (see paragraph OB1 of the *Conceptual Framework*).

Recognition is the process of incorporating into the statement of financial position or statement of comprehensive income an item that meets the definition of an element (eg asset) and satisfies the criteria for recognition (see below). It involves the depiction of the item in words and by a monetary amount and the inclusion of that amount in the statement of financial position or the statement of comprehensive income (see paragraph 4.37 of the *Conceptual Framework*; updated for new terminology and example added).

Recognition criteria

The recognition concept is that an item that meets the definition of an element (eg an asset) should be recognised if:

- (a) it is probable that any future economic benefit associated with the item will flow to or from the entity; and
- (b) the item has a cost or value that can be measured with reliability (see paragraph 4.38 of the *Conceptual Framework*).

Materiality

In assessing whether an item meets these criteria and therefore qualifies for recognition in the financial statements, regard needs to be given to the materiality considerations discussed in Chapter 3 *Qualitative Characteristics of Useful Financial Information* of the *Conceptual Framework*.⁽²²⁾ The interrelationship between the elements means that an item that meets the

⁽²¹⁾ The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (see paragraph OB2 of the *Conceptual Framework*).

⁽²²⁾ Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity. In other words, materiality is an entity-specific aspect of relevance based on the nature or magnitude, or both, of the items to which the information relates in the context

definition and recognition criteria for a particular element, for example, an asset, automatically requires the recognition of another element, for example, an income or a liability (see paragraph 4.39 of the *Conceptual Framework*).

Example 10: Materiality

A large listed profitable multinational entity whose financial statements are presented in millions of CUs follows an accounting policy of recognising individual items of PPE that cost less than CU1,000 as an expense on initial recognition. Applying this policy resulted in the entity recognising 800 items of PPE acquired in the period with a total cost of CU100,000 as an expense.

In the absence of evidence to the contrary, the entity's accounting policy of recognising immaterial items of PPE (an asset) as an expense on initial recognition does not contravene IFRSs.

Discussion questions

In what circumstances could an entity's policy result in a material error in the entity's financial statements? Relevant factors include, among others, when the cumulative effect of applying the policy could influence decisions that users make on the basis of financial information about that entity (eg if the aggregate amount of individually immaterial assets recognised as an expense in the period is material). Discuss the effects of the following outcomes from a material error, where the error:

- changes a profit to a loss, and vice versa;
- affects an entity's ability to meet the consensus of expectations among analysts;
- masks a change in earnings or other financial trends;
- affects the entity's compliance with loan covenants (eg by impact on debt/equity or debt/assets ratio) or other contractual requirements; or
- increases management's remuneration (eg by satisfying requirements for a bonus).

Recognition criteria - IAS 16

Consistently with the concept of element recognition in the *Conceptual Framework*, the general recognition principle for PPE is that the cost of an item of PPE is recognised as an asset only if:

- (a) it is probable that future economic benefits associated with the item will flow to the entity; and
- (b) the cost of the item can be measured reliably (see paragraph 7 of IAS 16).

An entity uses this recognition principle to evaluate all its PPE costs at the time they are incurred. These costs include costs incurred initially to acquire or construct an item of PPE

of an individual entity's financial report. Consequently, the Board cannot specify a uniform quantitative threshold for materiality or predetermine what could be material in a particular situation (paragraph QC11 of the *Conceptual Framework*).

and costs incurred subsequently to add to it, to replace part of it, or maintain it (see paragraph 10 of IAS 16).

By referring to the cost of an item of PPE (rather than an item of PPE) and by specifying that the single general recognition principle applies to all expenditure on PPE (initial and subsequent), this principle fosters consistency without specifying what constitutes an item of PPE (ie without specifying the unit of account for PPE). This approach avoids making the distinction between initial and subsequent expenditure on PPE and is consistent with the *Conceptual Framework* (see paragraph BC10 of the Basis for Conclusions on IAS 16).

It is usually not difficult, at the time of the expenditure, to determine whether the cost of an item of PPE must be recognised as an asset or as an expense. First, it must satisfy the definition of an asset that is classified as PPE. To be recognised as an asset it must satisfy both recognition criteria.

Probable future economic benefits

The first recognition criterion (probable future economic benefits) is usually satisfied when the expenditure first satisfies the definition of an asset of the entity (see above) because the ultimate purpose for which entities usually acquire PPE is to generate income directly (eg by using a machine to manufacture goods for sale) or indirectly (eg an entity's head office building houses the staff that administer the business that generates the cash inflows) from their use. In other words, management of a business would usually not purchase PPE unless it is probable that future economic benefits will flow to the business from using it.

Although the *Conceptual Framework* specifies that probability is used in the first recognition criterion to refer to the degree of uncertainty that the future economic benefits associated with the item will flow to the entity (see paragraph 4.40 of the *Conceptual Framework*), it does not specify whether the recognition threshold is not satisfied only when there is no probability of a cash flow occurring, or whether the likelihood of the cash flow occurring being probable (ie greater than 50 per cent) is necessary to trigger recognition. Consequently, the recognition criteria determined at the requirement level are not consistent across IFRSs, for example, when applying IAS 37 *Provision, Contingent Liabilities and Contingent Assets*, 'probable' means 'more likely than not' that the future economic benefit associated with the item will flow to or from the entity (eg in determining whether a liability is recognised for a particular present obligation). In such cases, the outcome is binary—if the probability of the outflow is greater than 50 per cent, a liability is recognised (conversely, if the probability of the outflow is 50 per cent or less, the obligation is not recognised as a liability, ie it is excluded from the entity's statement of financial position). In those circumstances in which the cost of an item of PPE includes the initial estimate of decommissioning, restoration and similar liabilities the recognition of such liabilities affects the measurement of the asset when it is first recognised.

Other requirements include the recognition of elements that meet the definition of an element (eg as an asset or a liability) and reflect the uncertainties associated with the likelihood of cash flows occurring in respect of particular rights or obligations in the measurement of that asset or liability—for example, when measuring an item at fair value.

Example 11: Backup generator (safety equipment)

A private hospital has installed two identical backup generators. The first backup generator provides electricity when the normal supply is interrupted. The second backup generator will be used in the unlikely event that the first backup generator fails.

Both backup generators are items of PPE. The standby equipment is expected to be used in more than one accounting period, although at unpredictable times. The likelihood of using the second backup generator might be remote. However, the probability that the entity will receive future economic benefits because it controls that equipment is real. Backup generators could be required by law to operate a hospital in some jurisdictions. Even if there is no legal requirement for the hospital to have backup generators in a state ready for use, the additional security that they provide to patients in the event of a power failure can reasonably be expected to result in cash flowing to the entity because it would increase the number of patients choosing that hospital, or because the hospital could charge higher fees for its services, or both. Moreover, the backup generators protect the hospital from incurring significant financial loss in the event of distress, damage to health or death of its patients in the event of a power failure.

In other words, although the backup generators do not necessarily directly increase future economic benefits, they enable the entity to derive future economic benefits from related assets in excess of what could be derived if the backup generators had not been acquired. Consequently, they satisfy the first recognition criterion.

Example 12: Day-to-day servicing (repairs and maintenance)

Once a month an entity's maintenance staff lubricate the moving parts of each of its machines with specialised oils that reduce friction and consequently enable the machines to operate efficiently. The staff also tighten all nuts and bolts, replace any worn washers and other small parts of insignificant value and touch up any worn paintwork at the entity's plant.

Although the salaries of the maintenance staff and the cost of the consumables and small parts they use are arguably incurred in the pursuit of future economic benefits, the flow of those future economic benefits is not sufficiently certain to be recognised as an asset under the general recognition principle (see paragraph BC12 of the Basis for Conclusions on IAS 16). Consequently, those costs are recognised as an expense as they are incurred in accordance with the application guidance in paragraph 12 of IAS 16.

In other words, the cost of day-to-day servicing is deemed not to satisfy the first recognition criterion.

Example 13: Replacement parts

An entity that manufactures agricultural chemicals is required by law to have the protective lining of its chemical processing plant inspected for corrosion at six-month intervals. If an inspection reveals damage to the lining the entity is required to replace it immediately. Experience has shown that linings require replacement, on average, every four years. The estimated economic life of the other parts of the plant is 20 years. In the current reporting period the entity replaced its plant's protective lining.

The costs incurred in replacing the lining are in the pursuit of future economic benefits—without replacement the entity cannot use its plant to manufacture chemicals. In other words, the cost of replacing the lining satisfies the first recognition criterion

because they enable the flow of those future economic benefits from the manufacture and the sale of chemicals to the entity. Consequently, in accordance with the general recognition principle (assuming the costs can be determined reliably) as clarified in application guidance in paragraph 13 of IAS 16, the replacement lining is recognised as an asset (ie part of the cost of the chemical processing plant) (see paragraph BC6 of the Basis for Conclusions to IAS 16).

Note: the carrying amount of the old lining is derecognised because it has been replaced (in other words, the plant has only one lining—the new lining).

Example 14: Major inspections—a condition of continuing to operate an item of PPE

An entity that operates an executive aviation service is required to have its jet aircraft inspected for faults by the national aviation authorities every two years. An inspection was made in the current reporting period.

The costs incurred for the inspection are in the pursuit of future economic benefits—without inspection the entity cannot use its aircraft to provide commercial aviation services. In other words, the cost of the inspection satisfies the first recognition criterion because it enables the flow of future economic benefits from the customers for its executive aviation services to the entity. Consequently, in accordance with the general recognition principle (assuming the costs can be determined reliably) as clarified in the application guidance in paragraph 14 of IAS 16, the service is recognised as an asset that is part of the cost of the aircraft (see paragraph BC6 of the Basis for Conclusions to IAS 16).

Note: the remaining carrying amount, if any, attributed to the old service is derecognised because that part of the asset has been replaced.

The second recognition criterion is usually also satisfied when the item of PPE first meets the definition of an asset of the entity. In some cases, the cost of an item of PPE can be measured precisely (eg when an entity acquires a ready-to-use photocopier for use by its administration staff in exchange for CU1,200 cash). In other cases, cost must be estimated (eg an item of PPE for which there is not an active market and that is received by way of a government grant, or an item that is acquired together with other assets in a business combination). The cost of a self-constructed asset may include many estimates, for example the cost of a retail outlet constructed by a brick manufacturer would include the cost of the self-manufactured bricks used (the cost of those bricks includes numerous estimates, eg an allocation of fixed production overhead including depreciation of the kiln) and borrowing costs allocated in accordance with IAS 23 *Borrowing Costs*. However, it is important to remember that the use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability (see paragraph 4.41 of the *Conceptual Framework*). Consequently, such estimates do not prevent recognition as an asset.

Cost

When an item of PPE first qualifies for recognition as an asset, it is measured at its cost (see paragraph 15 of IAS 16).

That cost comprises:

- (a) its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates.
- (b) any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. For application guidance, see paragraphs 17 and 19–22 of IAS 16. In addition, to giving a more faithful representation of the cost of an asset than would be the case if all borrowing costs were recognised as an expense (see paragraph BC9 of the Basis for Conclusions to IAS 23), borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset (eg the construction of a manufacturing plant that necessarily takes two years to get ready for intended use) are capitalised as part of the cost of the asset in accordance with IAS 23. For application guidance, see IAS 23.
- (c) the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which the entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period (see paragraph 16 of IAS 16), measured in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* (see paragraph 18 of IAS 16) and with changes to those costs being accounted for in accordance with IFRIC 1 *Changes in Existing Decommissioning, Restoration and Similar Liabilities*.

Estimating the cost in respect of items (b) and (c) above may require significant estimates and other judgements. It is important to remember that the use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability (see paragraph 4.41 of the *Conceptual Framework*). Consequently, such estimates do not prevent recognition as an asset.

Recognition of costs in the carrying amount of an item of PPE ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management (see paragraph 20 of IAS 16).

Discussion questions - Borrowing costs

In 2007 the IASB revised IAS 23 to eliminate the option of recognising all borrowing costs as an expense in the period in which they are incurred. Conversely, when developing the *IFRS for SMEs* in 2009, the IASB decided not to permit the capitalisation of borrowing costs as part of the cost of an asset (see paragraph BC120 of the Basis for Conclusions to the *IFRS for SMEs*)—instead, SMEs are required to recognise borrowing costs as an expense in the period in which they are incurred (see paragraph 25.2 of the *IFRS for SMEs*). The scope of IAS 23 continues to be limited to borrowing costs, ie it does not deal with the actual or imputed cost of equity (see paragraph 3 of IAS 23).

Question 1: To what extent does the capitalising of borrowing costs as part of the cost of an item of PPE, in accordance with IAS 23, provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

Question 2: To what extent does recognising borrowing costs as an expense in the period in which they are incurred, in accordance with the *IFRS for SMEs*, provide

investors, lenders and other creditors (existing and potential) with useful financial information about an entity that does not have public accountability?

Question 3: What significant estimates and judgements are an entity's management likely to make when capitalising borrowing costs in accordance with IAS 23?

Example 15: Decommissioning liability⁽²³⁾

An entity has a nuclear power plant and a related decommissioning liability. The nuclear power plant started operating on 1 January 20X0. The plant has a useful life of 40 years. Its initial cost was CU120,000 including an amount for decommissioning costs of CU10,000, which represented CU70,400 in estimated cash flows payable in 40 years discounted at a risk-adjusted rate of 5 per cent. The entity's financial year ends on 31 December.

On 31 December 20X9, the plant is 10 years old. Accumulated depreciation is CU30,000 (CU120,000 × $\frac{10}{40}$ years). Because of the unwinding of the discount (5 per cent) over the 10 years, the decommissioning liability has grown from CU10,000 to CU16,300.

On 31 December 20X9, the discount rate has not changed. However, the entity estimates that, as a result of technological advances, the net present value of the decommissioning liability has decreased by CU8,000. Accordingly, the entity adjusts the decommissioning liability from CU16,300 to CU8,300.

What journal entry would the entity make to reflect the change?

On 31 December 20X9 the entity makes the following journal entry:

Dr	Decommissioning liability	CU8,000	
	Cr	PPE (cost of nuclear power plant)	CU8,000

Measurement

The objective of general purpose financial reporting⁽²⁴⁾ forms the foundation of the *Conceptual Framework*. Other aspects of the *Conceptual Framework* including measurement—a reporting entity concept, the qualitative characteristics of, and the constraint on, useful financial information, elements of financial statements, recognition, measurement, presentation and disclosure—flow logically from this objective (see paragraph OB1 of the *Conceptual Framework*).

Measurement is the process of determining the monetary amounts at which the elements of the financial statements are to be recognised and carried in the statement of financial position and the statement of comprehensive income (see paragraph 4.54 of the *Conceptual Framework*; updated for new terminology).

However, the *Conceptual Framework* (see paragraphs 4.55 and 4.56) observes only that a range of measurement methods are employed to different degrees and in varying combinations in financial statements and provides an incomplete list, including:

⁽²³⁾ See example 1 of the illustrative examples that accompany but do not form part of IFRIC 1.

⁽²⁴⁾ The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (see paragraph OB2 of the *Conceptual Framework*).

- historical cost—assets are recorded at the amount of cash or cash equivalents paid or the fair value of the consideration given to acquire them at the time of their acquisition;
- current cost—assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset was acquired currently;
- realisable (settlement) value—assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal;
- present value—assets are carried at the present discounted value of the future net cash inflows that the item is expected to generate in the normal course of business; and
- market value—this measurement is not described (for more information see IFRS 13 *Fair Value Measurement*).

When developing financial reporting standards, subject to the cost-benefit constraint, the IASB chooses the alternative that goes furthest towards achieving the objective of financial reporting (see paragraphs BC3.4 and BC3.5 of the Basis for Conclusions to the *Conceptual Framework*). Consequently, particularly for measurement after initial recognition, IFRS specifies different measurements for different categories of assets. For example, after initial recognition:

- financial assets are measured at fair value or amortised cost (see paragraph 5.2.1 of IFRS 9);
- inventories are measured at the lower of cost and net realisable value (see paragraph 9 of IAS 2);
- investments in associates are measured using the equity method (see paragraph 13 of IAS 28);
- intangible assets and PPE are measured using the cost model or the revaluation model (see paragraphs 72 of IAS 38 and 29 of IAS 16);
- investment property is measured using the cost model or the fair value model (see paragraph 30 of IAS 40);
- agricultural produce at the point of harvest and biological assets when they relate to agricultural activity are measured at fair value less costs to sell (see paragraph 12 of IAS 41); and
- non-current assets held for sale are measured at the lower of the carrying amount (determined in accordance with other standards (eg IAS 16)) and fair value less costs to sell (see paragraph 15 of IFRS 5).

To a large extent, IFRS measurements are based on estimates, judgements and models rather than on exact depictions of reality. The *Conceptual Framework* establishes the concepts that underlie those estimates, judgements and models (see paragraph OB11 of the *Conceptual Framework*).

When an asset or a liability is measured by reference to future cash flows that are uncertain (ie there is a range of possible outcomes) it is necessary to reduce the range of possible outcomes to a single measure (eg an expected value). The expected value of a distribution of outcomes is its arithmetic mean (ie the probability-weighted sum of the outcomes). For example, consider a transaction that has three possible outcomes:

- 40 per cent probability of CU100 cash flow

- 30 per cent probability of CU200 cash flow
- 30 per cent probability of CU500 cash flow

The expected value of the cash flows is $(40 \text{ per cent} \times \text{CU}100) + (30 \text{ per cent} \times \text{CU}200) + (30 \text{ per cent} \times \text{CU}500) = \text{CU}250$.

The expected value technique is one of the building blocks for computing the current value of an asset or liability when that amount is not directly observable. IFRSs and the *IFRS for SMEs* require entities to measure particular assets and liabilities at expected value, or specify a measurement objective (such as fair value) that can be satisfied using expected value techniques eg IFRS 3 *Business Combinations* (for measuring contingent liabilities), IAS 37 *Provisions, Contingent Assets and Contingent Liabilities* (for measuring a provision involving a large population of items) and IAS 36 *Impairment of Assets* (for measuring value in use).

There are usually risks and uncertainties about the amounts, timings and probabilities assigned to the expected cash flows. Those risks and uncertainties can be captured either in estimates of cash flows or in the interest rates. However, the same uncertainties must not be captured in both (ie do not double count risks).

IFRS 13 *Fair Value Measurement* provides guidance on measuring fair value.

Discussion questions

Question 1: Make a list of the various measurement models specified for assets in IFRSs (eg historical cost-impairment, historical cost-depreciation-impairment, revaluation model, fair value, fair value less costs to sell, net realisable value). To what extent does the financial information that results from using the various models meet the objective of financial reporting and the qualitative characteristics of financial information?

Question 2: In your view, does the existence of a range of measurements for assets affect the ability of a potential investor or a potential creditor to choose between investment alternatives? Give reasons for your answer.

Measurement of the cost of PPE at initial recognition

To provide financial information about the reporting entity's PPE that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity (see paragraph OB2 of the *Conceptual Framework*), an entity initially measures the cost of an item of PPE at its cash price equivalent at the recognition date (see paragraph 23 of IAS 16).

Consistent with the cost measurement principle, IAS 16 provides application guidance, including:

- if a payment for an item of PPE is deferred beyond normal credit terms, the difference between the cash price equivalent and the total payment is recognised as interest over the period of credit unless such interest is capitalised in accordance with IAS 23 (see paragraph 23 of IAS 16).

- if a customer transfers an item of PPE to the entity and this item satisfies the definition of an asset, in accordance with paragraph 24 of IAS 16, the entity measures its cost at initial recognition at the fair value of the item (see paragraph 11 of IFRIC 18).
- if an item of PPE is acquired in exchange for a non-monetary asset, the cost of the acquired item of PPE is measured at fair value unless (a) the exchange transaction lacks commercial substance (see paragraph 25 of IAS 16)⁽²⁵⁾ or (b) the fair value of neither the asset received nor the asset given up is reliably measurable⁽²⁶⁾, in which case its cost is measured at the carrying amount of the asset given up (see paragraph 24 of IAS 16).

Because IAS 16 is not independent of the requirements of other IFRSs, it specifies exceptions to its cost-measurement principle for PPE. For example, the cost of an item of PPE held by a lessee under a finance lease is determined in accordance with IAS 17 *Leases* (see paragraph 27 of IAS 16). In addition, the carrying amount of an item of PPE may be reduced by government grants in accordance with IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*.

Other IFRSs also specify particular measurement of the cost of PPE when it is first recognised in particular circumstances. For example, in general conformity with the cost-measurement principle in IAS 16:

- the cost of PPE acquired in a business combination is measured at its acquisition-date fair value (see paragraph 18 of IFRS 3 *Business Combinations*).
- the cost of PPE acquired in an equity-settled share-based payment is measured at the fair value of the PPE received (see paragraph 10 of IFRS 2 *Share-based Payment*).⁽²⁷⁾
- the cost of PPE acquired in a cash-settled share-based payment is measured at the fair value of the liability incurred (see paragraph 30 of IFRS 2).

Example 16: Deferred payment

An entity acquired a plant for CU1,210,000 on two years' interest-free credit.

Assuming that an appropriate discount rate is 10 per cent per year, the cost of the plant (ie its cash price equivalent) could be estimated at CU1,000,000 (the present value of the future payment—calculation: $CU1,210,000 \text{ future payment} \times 1/(1.1)^2$).

Note: the unwinding of the discount results in interest expense recognised in profit or loss respectively of CU100,000 and CU110,000 in the first and second 12-month period after the sale. Furthermore, two years after the sale, the liability of CU1,210,000 (ie CU1,000,000 + CU100,000 + CU110,000) is derecognised upon settlement of the debt.

Question 1: To what extent does measuring the cost of the plant at CU1,000,000 provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

⁽²⁵⁾ A transaction does not have commercial substance if it does not have a discernible effect on the entity's economics (see paragraph BC21 of the Basis for Conclusions to IAS 16).

⁽²⁶⁾ For application guidance see paragraph 27 of IAS 16.

⁽²⁷⁾ In the unlikely event that the fair value of the PPE received cannot be estimated reliably, the entity measures the cost of the PPE with reference to the fair value of the equity instrument granted.

Question 2: What factors would the entity's management need to consider when making the significant estimates and judgements necessary to measure the cash price equivalent of the plant at the date of its acquisition?

Example 17: Decommissioning liability⁽²⁸⁾

An entity has a nuclear power plant and a related decommissioning liability. The nuclear power plant started operating on 1 January 20X0. The plant has an estimated useful life of 40 years. Its initial cost of CU120,000 includes an amount for decommissioning costs of CU10,000, which represents CU70,400 in estimated cash flows payable in 40 years discounted at a risk-adjusted rate of 5 per cent.

Question 1: To what extent does measuring the decommissioning component of the cost of the plant at CU10,000, in accordance with IAS 37, provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

Question 2: What factors would the entity's management need to consider when making the significant estimates and judgements necessary to measure the decommissioning liability?

Example 18: Asset exchange

A company operating in the airline industry received a new executive passenger jet in exchange for a three year old executive passenger jet and landing rights it held at a particular airport. Consequently the airline company will stop providing services at that airport.

Question 1: Does the exchange have commercial substance? Explain your reasoning.

Question 2: To what extent does measuring the costs of the new jet at its fair value (and derecognising the old jet and the landing rights), in accordance with IAS 16, provide investors, lenders and other creditors (existing and potential) with useful financial information?

Question 3: What estimates and judgements would the entity's management probably need to make when measuring the fair value of the jet received?

Example 19: Asset exchange

The airline company in example 3 also received a four year old executive passenger jet in exchange for a similar four year old executive passenger jet. That exchange was made to increase the entity's profit for the year by recognising a profit on the disposal of the jet given to the other party (the carrying amount of the jet given up is significantly lower than the fair value of the jets exchanged).

Question 1: Does the exchange have commercial substance? Give reasons for your answer.

Question 2: Would measuring the cost of the jet received at its fair value (and derecognising the jet given up with a consequent increase in the entity's profit for the

⁽²⁸⁾See example 1 of the illustrative examples that accompany but do not form part of IFRIC 1.

period) provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity? Give reasons for your answer.

Example 20: Customer transfers an item of PPE to the entity⁽²⁹⁾

An entity enters into an agreement with a customer involving the outsourcing of a customer's information technology (IT) functions. As part of the agreement, the customer transfers ownership of its existing IT equipment to the entity. Initially the entity must use the equipment to provide the service required by the outsourcing agreement. The entity is responsible for maintaining the equipment and for replacing it when the entity decides to do so. The useful life of the equipment is estimated to be three years. The outsourcing agreement requires service to be provided for ten years at a fixed price that is lower than the price the entity would have charged if the IT equipment had not been transferred.

In this example, the facts indicate that the IT equipment is an asset of the entity.

Question 1: To what extent does measuring the costs of the IT equipment received at its fair value, in accordance with IAS 16, provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

Question 2: What estimates and judgements would the entity's management probably need to make when measuring the fair value of the IT equipment received?

Example 21: PPE acquired in a business combination

An airline company acquired a fleet of ten executive passenger jets in a business combination. The jets are between one and three years old at the date of acquisition.

Question 1: To what extent does measuring the costs of the jets acquired at their acquisition-date fair values, in accordance with IFRS 3, provide investors, lenders and other creditors (existing and potential) with useful financial information?

Question 2: What estimates and judgements would the entity's management probably need to make when measuring the fair values of the jets acquired?

Example 22: PPE acquired in a share-based payment transaction

An airline company granted 1,000,000 of its own shares to an aircraft manufacturer in exchange for a fleet of twenty new executive passenger jets.

Question 1: To what extent does measuring the costs of the jets acquired at their fair values, in accordance with IFRS 2, provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

Question 2: What estimates and judgements would the entity's management probably need to make when measuring the fair values of the jets received?

⁽²⁹⁾ See example 3 of the illustrative examples that accompany but do not form part of IFRIC 18

Measurement after initial recognition (subsequent measurement)

In accordance with paragraph 29 of IAS 16, an entity elects either the cost model or the revaluation model as its accounting policy for each class of PPE⁽³⁰⁾. The *IFRS for SMEs* requires use of the cost model (see paragraph 17.15 of the *IFRS for SMEs*)—it does not permit use of the revaluation model.

Cost model

In accordance with the cost model, after initial recognition as an asset an item of PPE is carried at its cost less any accumulated depreciation and any accumulated impairment losses, except for land that has an indefinite useful life, which is accounted for at cost less any accumulated impairment losses (see paragraph 30 of IAS 16).

Revaluation model

In accordance with the revaluation model, after initial recognition as an asset an item of PPE with a fair value that can be measured reliably is carried at a revalued amount, which is its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using the fair value of the asset at the end of the reporting period (see paragraph 31 of IAS 16). The revaluation increase (or decrease) is recognised as income (or expense) classified as other comprehensive income in the statement of comprehensive income. However, to the extent that the revaluation increase (or decrease) would have been recognised as a reversal of an impairment (or an impairment) if the entity had used the cost model (instead of the revaluation model), that portion of the income (or expense) is recognised in profit or loss (see paragraphs 39 and 40 of IAS 16).

Note: the revaluation model for PPE is different from the fair value model for investment property (see IAS 40 *Investment Property* and Section 16 *Investment Property* of the *IFRS for SMEs*).

Paragraphs 31–42 of IAS 16 provide guidance for applying the revaluation model.

Discussion questions

Question 1: To what extent do the revaluation model and the cost model provide investors, lenders and other creditors (existing and potential) with useful financial information for making decisions about providing resources to the entity?

Question 2: Does the existence of the accounting policy choice (between the cost model and the revaluation model) affect the ability of a potential investor or a potential creditor to choose between investment alternatives? Give reasons for your answer.

Question 3: What significant estimates and judgements are an entity's management likely to make when determining the fair value of an item of its land and buildings in accordance with IFRS 13 *Fair Value Measurement* and when using the revaluation model in accordance with IAS 16?

⁽³⁰⁾ A class of PPE is a grouping of assets of a similar nature and use in an entity's operations.

Depreciation

Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life (see paragraph 6 of IAS 16). The concept of depreciation is essentially a cost allocation technique. It represents the consumption of the asset's service potential. Consequently, an entity deducts an asset's residual value from its historical cost (or fair value⁽³¹⁾ if using the revaluation model) to determine the asset's depreciable amount (see paragraph BC29 of IAS 16). An entity's expectation of increases in an asset's value, because of inflation or otherwise, does not override the need to depreciate it.

Residual value

The residual value of an asset is defined as the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life (see paragraph 6 of IAS 16). In other words, the residual value is the amount (net of the costs of disposal) that an entity could receive for the asset currently (at the financial reporting date) if the asset were already as old and worn as it will be when the entity expects to dispose of it. Consequently, an increase in the expected residual value of an asset because of past events will affect the depreciable amount, while expectations of future changes in residual value other than the effects of expected wear and tear will not affect it (see paragraph BC29 of the Basis for Conclusions to IAS 16).

Useful life

Useful life is defined as (a) the period over which an asset is expected to be available for use by an entity or (b) the number of production or similar units expected to be obtained from the asset by an entity (see paragraph 6 of IAS 16).⁽³²⁾ Useful life is the entire time an asset is available for use. Consequently, depreciation of an asset with a limited useful life begins when it is in the location and condition necessary for it to be capable of operating in the manner intended by management (see paragraph 55 of IAS 16). Whether idle or not, it is depreciated, so that the financial statements reflect the consumption of the asset's service potential that occurs while the asset is held (see paragraph BC31 of IAS 16). However, because the carrying amount of an asset held for sale will be recovered principally through sale rather than through future operations, the accounting for the asset held for sale is a process of valuation⁽³³⁾ rather than allocation (paragraph BC29 of the Basis for Conclusions on IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*). Consequently, PPE held for sale is not depreciated (see paragraph 55 of IAS 16). Instead, if its fair value less costs to sell is less than its carrying amount, it is carried at that lower amount (see paragraph 15 of IFRS 5).

⁽³¹⁾ Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

⁽³²⁾ The useful life of an asset is different from its economic life. Economic life is either: (a) the period over which an asset is expected to be economically usable by one or more users; or (b) the number of production or similar units expected to be obtained from the asset by one or more users (paragraph 4 of IAS 17 *Leases*).

⁽³³⁾ The process of valuation specified in IFRS 5 is limited effectively to accounting for the impairment of an asset held for sale (and the reversal of impairment losses); it does not allow increasing the carrying amount of an asset held for sale to its fair value less costs to sell.

Unit of measurement

The unit of measurement for depreciation is different from that for an item of PPE. Each part of an item of PPE with a cost that is significant in relation to the total cost of the item shall be depreciated separately, because depreciation of the item as a whole using approximation techniques (eg a weighted average useful life for the item as a whole) would not result in depreciation that faithfully represents an entity's varying expectations for the significant parts (see paragraph BC26 of IAS 16).

Consequently, for measurement purposes only (ie not for presentation and disclosure), an entity allocates the amount initially recognised in respect of an item of PPE to its significant parts and depreciates each such part separately. For example, it may be appropriate to depreciate the airframe and engines of an aircraft separately.

The depreciation unit of measure does not usually require an entity to subdivide an item of PPE into dozens of component parts. Management uses its judgement to determine when the effect of subdivision is material, for instance, when significant components have useful lives that are significantly different from one another (eg a building's lifts and heating/air conditioning plant may have lives that are shorter than that of the building shell. However, if the heating/air conditioning plant and lifts have similar useful lives and neither has a residual value, they could collectively be treated as a separate component).

Depreciation methods

A variety of depreciation methods can be used in different circumstances to allocate the depreciable amount of an asset on a systematic basis over its useful life (eg the straight-line method, the diminishing balance method and the units of production method). However, the depreciation method used must most closely reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity (see paragraph 60 of IAS 16). The depreciation method applied to an asset is reviewed at each financial year-end at least and, if there has been a significant change in the expected pattern of consumption of the future economic benefits embodied in the asset, the method is changed to reflect the changed pattern. Such a change is accounted for as a change in an accounting estimate in accordance with IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* because it is a change in the technique used to apply the entity's accounting policy to recognise depreciation as an asset's future economic benefits are consumed (see paragraph BC33 of the Basis for Conclusions on IAS 16).

Impairment

Impairment of PPE, if any, is determined in accordance with IAS 36 *Impairment of Assets*. The impairment principle in IAS 36 specifies that an asset should not be carried at more than its recoverable amount (recoverable amount is the higher of an asset's fair value less costs to sell and the present value of the future cash flows expected to be derived from an asset—its value in use).

These notes do not explain the IFRS requirements for the impairment of PPE, because impairment is more appropriately dealt with in separate notes.

Example 23: Depreciation

46

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On 1 September 20X1 an entity purchased a machine for CU1,000,000 to manufacture a chemical. In September the entity installed the machine at a cost of CU25,000. In October the entity made modifications to the machine at a cost of CU60,000. In November the entity tested the machine and made fine-tuning adjustments at a cost of CU15,000. On 1 December 20X1 the machine was ready for use as intended by management. However, the entity only commenced production using the machine on 1 January 20X2 (ie the machine was idle in December).

If the machine is serviced when it has produced 50,000 units, it could be used to produce about 100,000 units before it would be worthless and, in accordance with industry regulations, must be dismantled and the components recycled.

At 31 December 20X1 (the end of the reporting period) management:

- estimated the cost of the service (when the machine is in the condition it is expected to be after producing 50,000 units) at about CU100,000, if performed today.
- estimated that an independent specialist would currently charge about CU40,000 to dismantle the machine and a further CU60,000 to assume the obligation to recycle it. However, management intends to avoid incurring the cost of recycling the machine by selling it to a competitor after it has manufactured about 75,000 units.
- estimated that the machine will produce its 75,000th unit when it has operated for 10 years.
- estimated that the entity would receive CU100,000 (CU150,000 selling price less CU50,000 selling costs (including CU40,000 costs to dismantle in order to sell)) for the machine today if it were already as old and worn as it will be when it has produced 75,000 units.

At 31 December 20X4, because of the development of new recycling technologies in 20X4 and the discovery of alternative uses for the recycled materials, management:

- estimates that an independent specialist would now charge about CU40,000 to dismantle the machine and a further CU10,000 to assume the obligation to recycle it. However, the entity would now receive a previously unforeseen cash inflow of CU100,000 from the sale of the recycled material.
- estimates that the entity would receive CU250,000 (CU300,000 selling price less CU50,000 selling costs (including CU40,000 costs to dismantle in order to sell)) for the machine today if it were already as old and worn as it will be when it has produced 75,000 units.

Management's other estimates about the machine have not changed.

On 1 September 20X6 the entity committed itself to a plan to sell the machine to an independent third party for CU2,000,000. The entity's management announced the plan to the public and offered voluntary redundancy to the employees who operate that machine.

On 1 March 20X7 significantly all the risks and rewards of ownership of the machine transferred from the entity to the independent third party that acquired the machine.

Question 1: Explain, with reference to the accrual basis of accounting, how the entity is required to account for the servicing of the machine and its subsequent dismantling and recycling in accordance with IAS 16.

Question 2: Discuss how the accounting for depreciation in accordance with the *IFRS for SMEs* would differ from full IFRSs. Information prepared in conformity with which standard (full IFRSs or the *IFRS for SMEs*) better satisfies the objective of financial information? Give reasons for your answer.

Example 24: Temporarily idle

On 1 January 20X1 an entity acquired manufacturing equipment for CU1,000,000. The entity accounts for the machinery using the revaluation model in IAS 16 *Property, Plant and Equipment*. In accounting for revaluations, the entity restates accumulated depreciation proportionately with the change to the gross carrying amount of the asset so that the carrying amount of the asset after revaluation equals its revalued amount.

On 31 December 20X5 an entity ceases to use manufacturing equipment because demand for its product has declined. However, the equipment is maintained in a workable condition and it is expected that it will be brought back into use if demand picks up (ie the plant is not regarded as abandoned). Consequently, management determined the recoverable amount of the manufacturing equipment at CU100,000 (value in use = fair value; costs to sell are immaterial).

On 31 December 20X5, after calculating depreciation for 20X5 but before impairing the machine, the carrying amount of the machine was CU1,000,000 (CU2,000,000 gross carrying amount less CU1,000,000 accumulated depreciation).

At 31 December 20X6 the recoverable amount of the manufacturing equipment is CU500,000 (value in use = fair value; costs to sell are immaterial) because demand for the goods manufactured using the machine has increased significantly.

Management have, since acquiring the machine, estimated its useful life at 10 years from the date of acquisition. The entity intends to use the machine throughout its useful life, at the end of which the machine is expected to be scrapped. No material cash flows are expected to arise from the scrapping of the machine. Management expects to consume the machine's future economic benefits evenly over its 10-year useful life.

Question 1: Explain, with reference to the *Conceptual Framework*, how the entity would account for the machine in accordance with IFRSs in 20X6.

Question 2: Discuss how the accounting for depreciation in accordance with the *IFRS for SMEs* would differ from full IFRSs. Information prepared in conformity with which standard (full IFRSs or the *IFRS for SMEs*) better satisfies the objective of financial information? Explain your reasoning.

Note: using the cost model specified in Section 17 *Property, Plant and Equipment* of the *IFRS for SMEs*, on 1 January 20X6 the carrying amount of the mothballed manufacturing equipment would be CU100,000 (ie CU1,000,000 cost less CU500,000 accumulated depreciation less CU400,000 impairment recognised at 31 December 20X5).

Derecognition

The carrying amount of an item of PPE is derecognised at either its disposal or when no future economic benefits are expected from its use or disposal, whichever is the earliest (see paragraph 67 of IAS 16). The recognition principle for revenue from sales of goods is applied

to recognition of gains on disposals of items of PPE (see paragraph 69 of IAS 16). However, contrary to the IFRS presentation principle stating that expenses are not offset against income (see paragraph 32 of IAS 1), paragraph 68 of IAS 16 specifies that the gain or loss arising from the derecognition of an item of PPE is included in profit or loss when the item is derecognised (unless IAS 17 requires otherwise on a sale and leaseback). It also prohibits classifying such gains as revenue because revenue from the sale of goods is typically more likely than are gains from sales of items of PPE to recur in comparable amounts.

Consequently, users of financial statements would consider these gains and the proceeds from an entity's sale of goods in the course of its ordinary activities differently in their evaluation of an entity's past results and their projections of future cash flows (paragraph BC35 of the Basis for Conclusions to IAS 16). Consistently with that reason, the IASB concluded that entities whose ordinary activities include renting and subsequently selling the same assets should recognise revenue from both renting and selling the assets, because the presentation of gross selling revenue, rather than of a net gain or loss on the sale of the assets, would better reflect the ordinary activities of such entities (paragraph BC35C of the Basis for Conclusions to IAS 16). Consequently, in accordance with paragraph 68A of IAS 16, an entity that, in the course of its ordinary activities, routinely sells items of PPE that it has held for rental to others must transfer such assets to inventories at their carrying amount when they cease to be rented and become held for sale. Consequently, the proceeds from the sale of such assets are recognised as revenue in accordance with IAS 18 *Revenue*. IFRS 5 does not apply when assets that are held for sale in the ordinary course of business are transferred to inventories.

Example 25: Sale

On 31 December 20X5 an entity sold a machine used by the entity in the manufacture of goods for CU1,500 when the carrying amount of the machine was CU1,000 (its depreciated historical cost).

Question 1: Explain, with reference to the *Conceptual Framework* and IAS 16, how the entity would present the disposal of the machine in its financial statements for the year ended 31 December 20X5.

Question 2: Explain how your answer to question 1 would be different (if at all) if the entity prepares its financial statements in accordance with the *IFRS for SMEs*.

Example 26: Building held for sale

Management have, since acquiring the building, estimated its useful life at 50 years from the date of acquisition. Before deciding to sell the building, the entity intended to use it throughout its useful life, at the end of which the building was expected to be worthless. No material cash flows are expected to arise from the scrapping of the building. Management expects to consume the building's future economic benefits evenly over its fifty-year useful life.

On 31 December 20X5 the entity committed itself to a plan to sell its headquarters building and initiated actions to locate a buyer. The entity intends to transfer the building to a buyer after vacating the building. The time necessary to vacate the building is usual and customary for sales of such assets. It is highly probable that the building will be sold in the next few months.

At 31 December 20X5:

- the carrying amount of the building is CU1,000,000 (CU2,000,000 historical cost less CU1,000,000 accumulated depreciation).
- the fair value of the building is CU3,000,000
- estimated costs to sell are CU300,000.

On 2 February 20X6 the entity incurred costs of CU250,000 in selling the building for CU3,100,000.

Question 1: Explain, with reference to the *Conceptual Framework*, IFRS 5 and IAS 16, how the entity would present the disposal of the building in its financial statements for the years ended 31 December 20X5 and 31 December 20X6.

Question 2: Explain how your answer to question 1 would be different (if at all) if the entity prepares its financial statements in accordance with the *IFRS for SMEs*.

Question 3: Do you consider that financial information prepared in conformity with full IFRSs or with the *IFRS for SMEs* would better satisfy the objective of financial information? Give reasons for your view.

Example 27: Abandonment

In October 20X5 an entity decides to abandon all of its cotton mills, which constitute a major line of business. All work stops at the cotton mills on 30 June 20X6.

Question 1: Explain, with reference to the *Conceptual Framework* and IFRSs and the *IFRS for SMEs*:

- (a) Why the results and cash flows of the cotton mills are treated as continuing operations in the entity's financial statements for the year ended 31 December 20X5.
- (b) Why the results and cash flows of the cotton mills are treated as discontinued operations in the financial statements for the year ended 31 December 20X6, and why the entity makes the disclosures required by paragraphs 33 and 34 of IFRS 5.

Example 28: Revenue or gain

A chain of bicycle shops holds bicycles for short-term hire and for sale. The bicycles available for hire are used for two or three years and then sold by the shops as second-hand models.

Question 1: Explain, with reference to the *Conceptual Framework* and IAS 16, how the entity would present the disposal of the second-hand bicycles in its financial statements for the year ended 31 December 20X5.

Question 2: Explain how your answer to question 1 would be different (if at all) if the entity prepares its financial statements in accordance with the *IFRS for SMEs*.

Question 3: Do you consider that financial information prepared in conformity with full IFRSs or with the *IFRS for SMEs* would better satisfy the objective of financial information? Give reasons for your view.

Presentation and disclosure

The objective of general purpose financial reporting⁽³⁴⁾ forms the foundation of the *Conceptual Framework*. Other aspects of the *Conceptual Framework* including presentation and disclosure—a reporting entity concept, the qualitative characteristics of, and the constraint on, useful financial information, elements of financial statements, recognition, measurement, presentation and disclosure—flow logically from the objective (see paragraph OB1 of the *Conceptual Framework*).

The carrying amount of PPE is presented as a separate line item in the statement of financial position (see paragraph 54(a) of IAS 1). The part of these notes dedicated to the scope of PPE explained the process of subclassification in order to display information in the manner most useful to users for the purpose of making economic decisions (see paragraph 4.3 of the *Conceptual Framework*). For example, land is classified by function in the business of the entity in order to display information in the manner most useful to users for the purpose of making economic decisions, so it is classified as PPE (if it is held for use in the production or supply of goods or services or for administration purposes), as investment property (if it is held to earn lease rentals for capital appreciation or both) or as inventory (if it is held for sale in the ordinary course of business). Sometimes significant judgement is necessary to classify assets.

If the entity chooses to use the revaluation model for some classes of PPE and the cost model for others, further subclassification by class of PPE is necessary because the entire class of PPE must then be simultaneously revalued⁽³⁵⁾ (see paragraphs 36 and 38 of IAS 16). Subclassification by class is also required for the disclosure of PPE even when only one measurement model is used.

A class of PPE is defined as a grouping of assets of similar nature and use in an entity's operations (see paragraph 37 of IAS 16). As in the case of many IFRSs judgement is used in applying that subclassification principle.

Example 29: Subclassification principle (class of PPE)

An entity has the following items of PPE:

Property A: a vacant plot of land on which it intends to construct its new administration headquarters;

Property B: a plot of land that it operates as a landfill site;

Property C: a plot of land on which its existing administration headquarters are built;

Property D: a plot of land on which its direct sales office is built;

Properties E1–E10: ten separate retail outlets and the land on which they are built;

⁽³⁴⁾The objective is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit (see paragraph OB2 of the *Conceptual Framework*).

⁽³⁵⁾ Simultaneous revaluation (or a rolling basis of revaluation) is required to avoid selective revaluation within a class of PPE.

Equipment A: computer systems at its headquarters and direct sales office that are integrated with the point of sale computer systems in the retail outlets;

Equipment B: point of sale computer systems in each of its retail outlets;

Furniture and fittings in its administrative headquarters and its sales office; and

Shop fixtures and fittings in its retail outlets.

Discussion questions

Consider whether the following assets should be shown as separate classes of assets. Give reasons for your answers.

Question 1: Should the land without a building be separated from land and buildings?

Question 2: Should the land that is operated as a landfill site be separated from the vacant land?

Question 3: Are the entity's retail outlets sufficiently different in nature and use from office buildings so as to be treated as a separate class of land and buildings?

Question 4: Since the computer equipment is integrated across the organisation, should it be classified as a single separate class of asset?

Question 5: Are furniture and fittings used for administrative purposes sufficiently different from shop fixtures and fittings in retail outlets so as to be classified in two separate classes of assets?

Note: Materiality (capable of affecting a primary user's decision made on the basis of the financial statement information) is also an important consideration in making those classification judgements.

Paragraphs 73–79 of IAS 16 prescribe disclosure requirements for PPE. Those disclosures are usually set out in the notes, which:

- (a) present information about the basis of preparation of the financial statements and the specific accounting policies used (see paragraph 112(a) of IAS 1). For example, for each class of PPE, an entity discloses the measurement base used (eg cost model or revaluation model), depreciation methods used (eg straight-line, reducing balance or specific identification) and useful lives.
- (b) disclose information about the assumptions that the entity makes about the future, and other major sources of estimation uncertainty at the end of the reporting period, that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year (see paragraph 125 of IAS 1). For example, the assumptions made in measuring the initial estimate of the costs of dismantling and removing the nuclear power plant and restoring the site on which it is located, the obligation for which was incurred when the plant was constructed.
- (c) disclose, in the summary of significant accounting policies or other notes, the judgements, apart from those involving estimations, that management has made in the process of applying the entity's accounting policies and that have the most significant effect on the amounts recognised in the financial

statements (see paragraph 122 of IAS 1). For example, management might have used significant judgement in deciding whether a particular and significant building it owns is an investment property or PPE.

- (d) disclose the information required by IFRSs that is not presented elsewhere in the financial statements (see paragraph 112(b) of IAS 1). For example, IAS 16 requires disclosure of the gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period and a reconciliation of the carrying amount at the beginning and end of the period showing:
- (i) additions;
 - (ii) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with IFRS 5 and other disposals;
 - (iii) acquisitions through business combinations;
 - (iv) increases or decreases resulting from revaluations and from impairment losses recognised or reversed in other comprehensive income in accordance with IAS 36;
 - (v) impairment losses recognised in profit or loss in accordance with IAS 36;
 - (vi) impairment losses reversed in profit or loss in accordance with IAS 36;
 - (vii) depreciation;
 - (viii) the net exchange differences arising on the translation of the financial statements from the functional currency into a different presentation currency, including the translation of a foreign operation into the presentation currency of the reporting entity; and
 - (ix) other changes.
- (e) provide information that is not presented elsewhere in the financial statements, but is relevant to an understanding of any of them (eg additional disclosures when necessary to achieve a fair presentation) (see paragraphs 15 and 112(c) of IAS 1).

The part of these notes dedicated to the derecognition of PPE explained that:

- contrary to the IFRS presentation principle that expenses are not offset against income, the gain or loss arising from the derecognition of an item of PPE is included in profit or loss when the item is derecognised.
- the gains on disposal of PPE are not recognised as revenue.
- entities whose ordinary activities include renting and subsequently selling the same assets should recognise revenue from both renting and selling the assets (rather than revenue only from renting and a net gain or loss on the sale of the assets). IFRS 5 does not apply when assets that are held for sale in the ordinary course of business are transferred to inventories.

Changes in accounting policies, transitional provisions and effective dates

Users of financial statements need to be able to compare the financial statements of an entity over time to identify trends in its financial position, financial performance and cash flows. The same accounting policies are therefore applied within each period and from one period to the next (see paragraph 15 of IAS 8). Consequently, an entity applies its accounting policies for PPE consistently from one period to the next. However, an entity changes an accounting policy only if:

- (a) the change is required by an IFRS (eg when the entity first applies a new IFRS or an amendment to an IFRS); or
- (b) the change results in the financial statements providing reliable and more relevant information about the effects of transactions, other events or conditions on the entity's financial position, financial performance or cash flows (see paragraph 14 of IAS 8).

For example, a change to the revaluation model from the cost model would provide a more current measure of the PPE asset in the statement of financial position and a more current measure of depreciation.

Consequently, the general principle for accounting for a change in accounting policy is retrospective application, ie restate comparative figures as if the new accounting policy had always been applied by the entity (see paragraphs 19 and 23 of IAS 8). However, application of the cost constraint (see paragraphs QC35–QC39 of the *Conceptual Framework*) frequently results in the IASB specifying particular transitional provisions that create exceptions to the general principle of accounting for particular changes in accounting policies retrospectively (see paragraph 19(a) of IAS 16). Similarly, the initial accounting for a change of accounting policy for PPE from the cost model to the revaluation model is accounted for as a revaluation in accordance with IAS 16 rather than a change in accounting policy (see paragraph 17 of IAS 8). Furthermore, paragraphs 80–81F prescribe transitional provisions and effective dates for amendments to IAS 16.

Paragraphs 28 to 31 of IAS 8 specify disclosure requirements for a change in accounting policy.

Stage 2: Assignment questions

Assignment 1

Find the current consolidated annual report for an exchange-listed group that has property, plant and equipment (PPE) and prepares its financial statements in compliance with IFRSs. (Annual reports can be downloaded directly from companies' websites.) Prepare a one-page executive summary for the company's Board of Directors that outlines the usefulness of the company's accounting and reporting of its PPE.

Assignment 2

Your task is to find examples of items of PPE (or other tangible assets) that are difficult to classify. Possible sources include:

- (i) the IFRS financial statements of exchange listed entities;⁽³⁶⁾
- (ii) published regulatory decisions of securities regulators;
- (iii) reports of professional accounting firms; and
- (iv) press articles.

Using the examples you have identified, explain:

- (i) why you consider those items difficult to classify;
- (ii) whether you agree with the entity's classification; and
- (iii) whether another classification would provide investors, lenders and other creditors (existing and potential) with more useful financial information.

Give reasons for your views, making reference to the requirements of IAS 16 and other relevant IFRSs.

Assignment 3

Your task is to find examples of items of PPE that have parts that require (a) replacement at regular intervals and (b) replacement at less frequent and irregular intervals. Possible sources for examples include:

- (i) the IFRS financial statements of exchange-listed entities;
- (ii) published regulatory decisions of securities regulators;
- (iii) reports from professional accounting firms; and
- (iv) press articles.

Using the examples you have identified, explain:

- (i) whether you agree with the entity's identification of such replacement parts; and
- (ii) whether accounting for those replacement parts separately provides investors, lenders and other creditors (existing and potential) with useful financial information.

Give reasons for your views, making reference to requirements of IFRSs or the *IFRS for SMEs*.

Assignment 4

Find in the IFRS financial statements of exchange-listed entities examples of items of PPE that have a variety of depreciation methods, useful lives and residual values.

Your task is to explain:

- (i) Whether you agree with the estimates made by the entities whose financial statements you examined, giving reasons for your answers.
- (ii) Are estimates that different entities make about similar items of PPE consistent? What reasons could there be for the variations found, if any?
- (iii) Would the objective of financial information be better satisfied if the IASB were to specify particular depreciation rates and useful lives for each type of PPE (eg

⁽³⁶⁾ see paragraph 122 of IAS 1 *Presentation of Financial Statements*.

25 per cent of the historical cost of computers must be recognised as an expense (depreciation) per year)? Explain your reasoning.

- (iv) Would financial information prepared in accordance with IFRSs better satisfy the objective of general purpose financial reporting if the IASB were to specify only one measurement model for PPE? Describe the model you would select, and give reasons for your choice.
- (iv) To what extent could a measurement model other than those specified by the IASB provide useful information to existing and potential investors, lenders and other creditors; eg could fair value or historical cost (ie without depreciation and impairment) provide more useful information than IFRS measurement models?