Chapter 10
Non-current assets: Property, plant and equipment, and intangibles

Learning objectives
• Measure the cost of a noncurrent asset
• Account for depreciation
• Account for the disposal of a non-current asset by sale or exchange
• Account for the revaluation of a non-current asset
• Account for natural resources
• Account for intangible assets

Introduction
• Property, plant and equipment (tangible assets) include assets whose physical characteristics define their utility or usefulness, such as buildings, desks and equipment
• Natural resources include assets that come from the ground and can ultimately be used up. For example, oil, diamonds and coal are all natural resource assets
• Intangible assets include assets whose value is not derived from their physicality. For example, software programs on a CD are intangible assets. The ‘physical’ CD is not the value, but the knowledge/programs on the CD really represent the asset
Introduction

Exhibit 10-1  Non-current assets and their related expenses

Measuring the cost of property, plant and equipment

- The cost principle says to carry a non-current asset at its cost
- The cost of an asset is the sum of all the costs incurred to bring the asset to its intended purpose, net of all discounts
- The cost of an item of property, plant or equipment is its purchase price plus charges such as customs duty, purchase commissions and all other amounts paid to ready the asset for its intended use

Land and land improvements

- The cost of land is not depreciated
- It includes the following costs paid by the purchaser
  - Purchase price
  - Agent’s commission
  - Government stamp duty and other charges
  - Survey and legal fees
  - Cost of clearing the land and removing any unwanted buildings
Land and land improvements

- The cost of land does not include the following costs:
  - Fencing
  - Paving
  - Sprinkler systems
  - Lighting
  - Signs
- These separate assets, called land improvements, are subject to depreciation.

Buildings

- The cost of a building depends on whether the company is constructing the building itself or is buying an existing one.

<table>
<thead>
<tr>
<th>Constructing a building</th>
<th>Purchasing an existing building</th>
</tr>
</thead>
<tbody>
<tr>
<td>architectural fees</td>
<td>purchase price</td>
</tr>
<tr>
<td>building permits</td>
<td>costs to renovate the building to ready the building for use</td>
</tr>
<tr>
<td>contractor charges</td>
<td></td>
</tr>
<tr>
<td>payments for material, labour and overhead</td>
<td></td>
</tr>
<tr>
<td>capitalised interest cost, if self-constructed</td>
<td></td>
</tr>
</tbody>
</table>
Machinery and equipment

- The cost of machinery and equipment includes its
  - purchase price (less any discounts)
  - transportation charges
  - insurance while in transit
  - customs duty or similar charges
  - installation costs
  - cost of testing the asset before it is used

- After the asset is up and operating, the company no longer debits the cost of insurance, taxes, ordinary repairs and maintenance to the Equipment account. From that point on, insurance, repairs and maintenance costs are recorded as expenses

Capitalising the cost of interest

- Businesses sometimes construct non-current assets themselves and finance the construction with borrowed money
- Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset form part of the cost of that asset
- Other borrowing costs are recognised as an expense
- A qualifying asset is one that necessarily takes a substantial period of time to get ready for its intended use
- To capitalise a cost means to debit an asset (instead of an expense) account

A lump-sum (basket) purchase of assets

- Purchase a group of plant assets for a single price
- For accounting purposes, it is necessary to identify the cost of each asset
- Assign cost to individual assets based on relative fair (market) values
- Fair value is the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm’s-length transaction
Capital expenditures

- Capital expenditures are debited to an asset account because they increase the asset's capacity or efficiency, or extend the asset's useful life.
- Examples of capital expenditures include the purchase price plus all the other costs to bring an asset to its intended use, major overhaul or modification that adds to the asset's capacity or useful life.
- Expenses, such as repair or maintenance expense, are not debited to an asset account because they merely maintain the asset in working order.
- Expenses are immediately matched against revenue.

Depreciation

- Depreciation is the allocation of a non-current asset's cost to expense over its useful life.
- It matches the expense against the revenue earned by the asset to measure profit.
- It is not a process of valuation. Businesses do not record depreciation based on the asset's market (sales) value.
- Depreciation does not mean that the business sets aside cash to replace an asset when it is used up.

Measuring depreciation

- Depreciation of a non-current asset is based on capitalised cost, estimated useful life, estimated residual value.
- **Capitalised cost** includes all items spent for the asset to perform its intended function.
- **Estimated useful life** is the length of the service period expected from the asset.
- **Estimated residual value** is the asset's expected cash value at the end of its useful life.
- Cost minus residual value is called depreciable amount.
Depreciation methods

- The **straight-line method** allocates an equal amount of depreciation to each year.
- Depreciable amount is divided by useful life to determine annual depreciation.

### Example:

<table>
<thead>
<tr>
<th>Date</th>
<th>Account title</th>
<th>Dr</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 30</td>
<td>Depreciation expense—truck (E+)</td>
<td>8000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accumulated depreciation—truck (CA+)</td>
<td></td>
<td>8000</td>
</tr>
</tbody>
</table>

Depreciation methods

**EXHIBIT 10-6**  Straight-line depreciation schedule for a truck

<table>
<thead>
<tr>
<th>Date</th>
<th>Asset Description</th>
<th>DEPRECIATION FOR THE YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asset cost</td>
<td>Depreciable amount</td>
</tr>
<tr>
<td>1-7-2013</td>
<td>51,000</td>
<td>51,000</td>
</tr>
<tr>
<td>9-4-2014</td>
<td>51,000</td>
<td>51,000</td>
</tr>
<tr>
<td>9-4-2015</td>
<td>51,000</td>
<td>51,000</td>
</tr>
<tr>
<td>9-4-2016</td>
<td>51,000</td>
<td>51,000</td>
</tr>
<tr>
<td>9-4-2017</td>
<td>51,000</td>
<td>51,000</td>
</tr>
</tbody>
</table>
Depreciation methods

- The **units-of-production method** allocates a fixed amount of depreciation to each unit of output
- A unit of output can be kilometres, units, hours or output

EXHIBIT 10.7 Units-of-production depreciation schedule for a truck

<table>
<thead>
<tr>
<th>Date</th>
<th>Depreciation</th>
<th>Number of Units</th>
<th>Depreciation Expense</th>
<th>Accumulated Depreciation</th>
<th>Carrying Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7-2003</td>
<td>50,487</td>
<td>20,000</td>
<td>5,048.7</td>
<td>50,000</td>
<td>50,487</td>
</tr>
<tr>
<td>8-8-2003</td>
<td>0.43</td>
<td>20,000</td>
<td>12.06</td>
<td>52,060</td>
<td>20,000</td>
</tr>
<tr>
<td>9-4-2003</td>
<td>0.43</td>
<td>20,000</td>
<td>12.06</td>
<td>52,060</td>
<td>20,000</td>
</tr>
<tr>
<td>30-8-2007</td>
<td>0.43</td>
<td>15,000</td>
<td>6.45</td>
<td>46,615</td>
<td>15,000</td>
</tr>
<tr>
<td>11-1-2008</td>
<td>0.43</td>
<td>10,000</td>
<td>4.06</td>
<td>40,661</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: previous page for 50.487 per kilometre calculation

Depreciation methods

- The **reducing-balance method** writes off more depreciation near the start of an asset’s useful life than the straight-line method does
- This method multiplies the asset’s decreasing carrying amount by a constant percentage

EXHIBIT 10.8 Reducing balance depreciation schedule for a truck (with a precise depreciation rate of 12.5%)

Comparing depreciation methods

<table>
<thead>
<tr>
<th>Year</th>
<th>Straight line</th>
<th>Units of production</th>
<th>Reducing balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8000</td>
<td>8000</td>
<td>16400</td>
</tr>
<tr>
<td>2</td>
<td>8000</td>
<td>12000</td>
<td>9840</td>
</tr>
<tr>
<td>3</td>
<td>8000</td>
<td>10000</td>
<td>5904</td>
</tr>
<tr>
<td>4</td>
<td>8000</td>
<td>5000</td>
<td>3542</td>
</tr>
<tr>
<td>5</td>
<td>8000</td>
<td>4000</td>
<td>4314</td>
</tr>
<tr>
<td>40000</td>
<td></td>
<td>40000</td>
<td>40000</td>
</tr>
</tbody>
</table>
Changing the useful life of a depreciable asset

- AASB 116 requires that the residual value and useful life of an asset be reviewed at least annually and any changes reflected in changed depreciation rates
- The details and the effects of any change in estimates must be disclosed in the financial statements
- For a change in accounting estimate, the asset’s remaining carrying amount (book value) is spread over the asset’s remaining life

Using fully depreciated assets

- Asset has reached the end of its estimated life
- If still useful, a company will continue to use it
- Report book value on balance sheet
- Record no more depreciation
- Asset never reported below residual value

Disposing of a non-current asset

- **Step 1:** Bring the depreciation up to date
- **Step 2:** Remove the old, disposed of asset from the books. Make the Asset account equal zero by crediting the asset for its original cost. Make the Accumulated depreciation account for the asset equal zero by debiting it for all the depreciation taken to date on the asset
- **Step 3:** Record the value of any cash (or other accounts) paid (or received) for the asset
- **Step 4:** Determine the difference between the total debits and total credits made in the journal entry. All gains and losses are reported in the income statement
Internal controls of non-current assets.

Segregation of duties between custody, recording, authorisation for purchase and disposal

Assigned responsibility for the custody of the assets.

Adequate security to protect from theft, damage or unauthorised use.

Adequate insurance and weather protection.

Staff should be trained in the proper use.

Proper and regular maintenance

Asset register must be maintained with:

- Description of the asset,
- its location,
- the person responsible for the asset clearly stated,
- the cost,
- useful life,
- Depreciation and depreciation method,
- insurance and maintenance details.

Impairment of non-current assets

- Accounting Standard AASB 136, Impairment of Assets, requires that, if the carrying amount of an asset is greater than its 'recoverable amount', then the carrying amount must be reduced to that recoverable amount
- Recoverable amount is the higher of an asset's market selling value and its value in use
- 'Value in use' means the cash flows expected to be gained from using the asset, discounted to their present value
- The amount of the write-down, an 'impairment loss', is an expense and is included in the income statement
Revaluation of non-current assets

- A modification to the cost principle is that Accounting Standard AASB 116, Property, Plant and Equipment, allows businesses to record non-current assets using either the cost model or the revaluation model
- The revaluation model records the asset at its fair value
- Assets recorded at fair value must be revalued regularly to ensure that the carrying amount of each asset is maintained at its current fair value
- A revaluation can increase the carrying amount of an asset (a revaluation increment) or can decrease its carrying amount (a revaluation decrement)

Accounting for natural resources

- Natural resources are non-current assets that come from the earth
- They are expensed through depletion
- Depletion expense is that portion of the cost of natural resources that is used up in a particular period

Accounting for intangible assets

- Intangible assets have no physical form
- Instead, these assets convey special rights from patents, copyrights, trademarks
- The intangible is expensed through amortisation, the systematic reduction of the asset’s carrying amount on the books
- Amortisation is calculated over the asset’s estimated useful life
- Some intangibles have indefinite lives. For them, the business records no systematic amortisation each period. Instead, it accounts for any decrease in the value of the intangible as an impairment
Accounting for goodwill

- Goodwill is the excess of the cost to purchase another business or its net assets over the market value of its net assets (assets minus liabilities)
- It is the value paid above the net worth of the business' assets and liabilities
- Internally generated goodwill shall not be recognised as an asset

Summary: Chapter 10

- All costs spent to ready an asset to perform its intended function are capitalised
- Depreciation recovers the cost invested in an asset over the asset's useful life
- Impairments recognise decline in an asset's value for issues other than normal depreciation
- Depletion is the word we use instead of depreciation to attach to recovering the cost of natural resources
- Intangible assets are assets whose value is not represented by their physical form but from their original creativity
- The cost invested in intangibles is recovered using amortisation