

Financial Accounting

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MGM611

Lecture (8) Plant Assets



Plant Assets(Non current assets)

Property ,Plant ,and Equipment (IAS 16)

Chapter Outline

Learning Objectives

- LO 1** Explain the accounting for plant asset expenditures.
- LO 2** Illustrate cost of plant assets.
- LO 3** Apply depreciation methods to plant assets.
- LO 4** Discuss how plant assets depreciation revised.

Plant Asset Expenditures

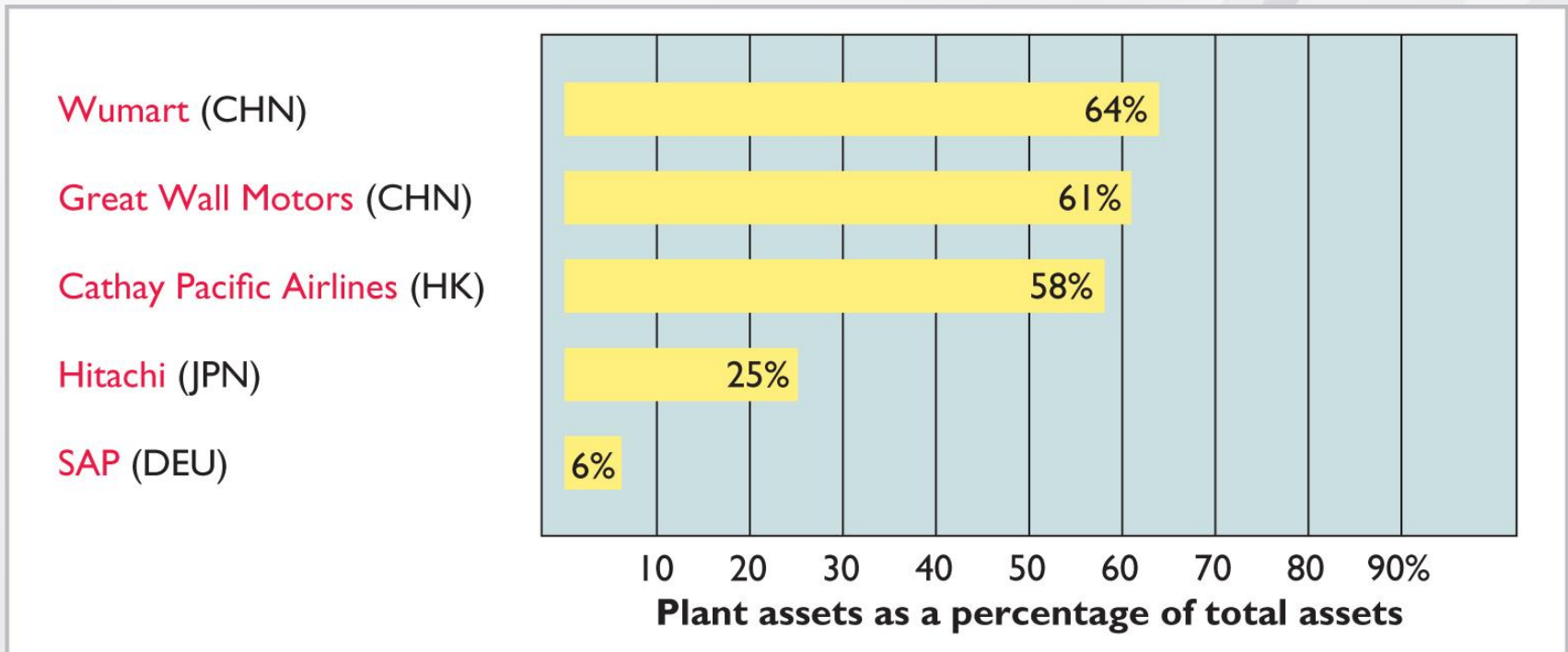
Plant assets are resources that have

- physical substance (a definite size and shape)
- are used in the operations of a business
- are not intended for sale to customers
- are expected to be of use to the company for a number of years

Referred to as **property, plant, and equipment; plant and equipment; and fixed assets.**

Plant Asset Expenditures

Plant assets are critical to a company's success.



Plant Asset Expenditures

Determining the Cost of Plant Assets

Historical Cost Principle requires that companies record plant assets at cost.

Cost consists of all expenditures necessary to acquire an asset and **make it ready for its intended use.**

Determining the Cost of Plant Assets

Land

All necessary costs incurred in making the land **ready for its intended use** increase (debit) the Land account.

Costs typically include:

1. **cash purchase price,**
2. **closing costs such as title and attorney's fees,**
3. **real estate brokers' commissions, and**
4. **accrued property taxes.**
5. **Removal cost (Razing cost)**

Determining the Cost of Plant Assets

Illustration: Lew Ltd. acquires real estate at a cash cost of \$2,000,000. The property contains an old warehouse that is razed at a net cost of HK\$60,000 (\$75,000 in costs less \$15,000 proceeds from salvaged materials). Additional expenditures are the attorney's fee, \$10,000, and the real estate broker's commission, \$80,000. Determine the amount to be reported as the cost of the land.

Determining the Cost of Plant Assets

Illustration: Determine the amount to be reported as the cost of the land.

Cash price of property

Net removal cost of warehouse (HK\$75,000 - HK\$15,000)

Attorney's fee

Real estate broker's commission

Cost of land

Land

HK\$2,150,000

Lew makes the following entry:

Land

2,150,000

Cash

2,150,000

Determining the Cost of Plant Assets

Land Improvements

Structural additions with limited lives that are made to land. **Cost includes all expenditures necessary** to make the improvements **ready for their intended use**.

- Examples: **driveways, parking lots, fences, landscaping, and underground sprinklers**
- Limited useful lives
- Expense (depreciate) cost of land improvements over their useful lives

Determining the Cost of Plant Assets

Buildings

Includes all costs related directly to purchase or construction.

Purchase costs:

- Purchase price, closing costs (attorney's fees, title insurance, etc.) and real estate broker's commission
- Remodeling and replacing or repairing the roof, floors, electrical wiring, and plumbing

Determining the Cost of Plant Assets

Buildings

Includes all costs related directly to purchase or construction.

Construction costs:

- **Contract price**
- **Payments for architects' fees**
- **Building permits**
- **Excavation costs**

Determining the Cost of Plant Assets Equipment

Includes all costs incurred in acquiring the equipment and preparing it for use.

Costs typically include:

- **Cash purchase price**
- **Sales taxes**
- **Freight charges**
- **Insurance during transit paid by purchaser**
- **Assembling, installing, and testing**
- **Painting and lettering**

Determining the Cost of Plant Assets

Illustration: Huang Group purchases a delivery truck at a cash price of \$420,000. Related expenditures consist of sales taxes \$13,200, painting and lettering \$5,000, motor vehicle license \$800, and a three-year accident insurance policy \$16,000.

Compute the cost of the delivery truck.

Equipment

Cost of delivery truck

Determining the Cost of Plant Assets

- **Illustration:** Huang Group purchases a delivery truck at a cash price of \$420,000. Related expenditures consist of sales taxes \$13,200, painting and lettering \$5,000, motor vehicle license \$800, and a three-year accident insurance policy \$16,000. **Prepare the journal entry** to record these costs.

Equipment	438,200	
License Expense	800	
Prepaid Insurance	16,000	
Cash		455,000

Expenditures During Useful Life

Ordinary Repairs are expenditures to maintain the operating efficiency and productive life of the unit.

- Debit to Maintenance and Repairs Expense
- Referred to as **revenue expenditures**

Additions and Improvements are costs incurred to increase the operating efficiency, productive capacity, or useful life of a plant asset.

- Debit plant asset affected
- Referred to as **capital expenditures**

DO IT! 1 | Cost of Plant Assets

Assume that Jing Feng Heating and Cooling purchases a delivery truck for \$150,000 cash, plus sales taxes of \$9,000 and delivery costs of \$5,000. The buyer also pays \$2,000 for painting and lettering, \$6,000 for an annual insurance policy, and \$800 for a motor vehicle license. Explain how each of these costs would be accounted for.

Solution

- The first four payments (\$150,000, \$9,000, \$5,000, and \$2,000) are included in the **cost of the truck (\$166,000)**
- The payments for **insurance** and the **license** are operating costs and therefore are **expensed**

Depreciation Methods

Depreciation

Process of allocating to expense the cost of a plant asset over its useful (service) life in a **rational and systematic manner**.

- Process of cost allocation, not asset valuation
- Applies to land improvements, buildings, and equipment, not land
- Depreciable because the revenue-producing ability of asset will decline over the asset's useful life

Factors in Computing Depreciation

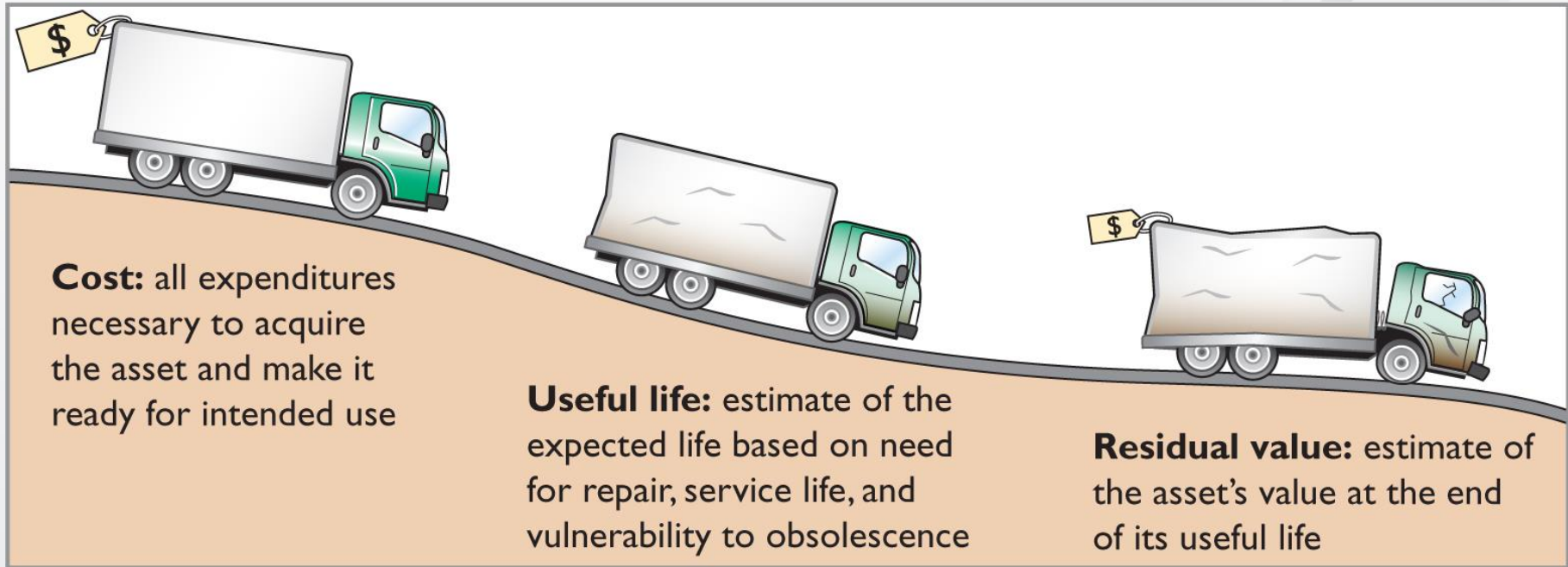


ILLUSTRATION 10.6

Three factors in computing depreciation

Alternative Terminology

Another term sometimes used for salvage value is *residual value*.

Helpful Hint

Depreciation expense is reported on the income statement. Accumulated depreciation is reported on the statement of financial position as a deduction from plant assets.

Depreciation Methods

Management selects the method it believes best measures an asset's contribution to revenue over its useful life.

Examples include:

1. **Straight-line method**
2. **Declining-balance method**
3. **Units-of-activity method**

Depreciation Methods

Illustration: Barb's Florists purchased a small delivery truck on January 1, 2020.

Cost	€13,000
Expected salvage value	€ 1,000
Estimated useful life in years	5
Estimated useful life in miles	100,000

Required: Compute depreciation using the following.

(a) Straight-Line (b) Units-of-Activity (c) Declining Balance

Straight-Line Method

- Expense is **same amount** for each year
- Depreciable cost = Cost less residual value

Cost	-	Residual Value	=	Depreciable Cost
€13,000	-	€1,000	=	€12,000

Depreciable Cost	÷	Useful Life (in years)	=	Annual Depreciation Expense
€12,000	÷	5	=	€2,400

Straight-Line Method

Illustration for Barb's Florists

Year	Computation		Annual Depreciation Expense	End of Year	
	Depreciable Cost	x Depreciation Rate =		Accumulated Depreciation	Book Value
2020					
2021					
2022					
2023					
2024					

**2020
Journal
Entry**

Depreciation Expense

Accumulated Depreciation

2,400

2,400

Straight-Line Method

Partial Year

Assume the delivery truck was **purchased on April 1, 2020.**

Year	Depreciable Cost	x	Rate	=	Annual Depreciation Expense	x	Partial Year	=	Current Year Expense	Accumulated Depreciation
2020	€12,000	x	20%	=	€2,400	x	9/12	=	€ 1,800	€ 1,800
2021	12,000		20		2,400				2,400	4,200
2022	12,000		20		2,400				2,400	6,600
2023	12,000		20		2,400				2,400	9,000
2024	12,000		20		2,400				2,400	11,400
2025	12,000	x	20	=	2,400	x	3/12	=	600	12,000
									<u>€12,000</u>	

Declining-Balance Method

- Accelerated method
- Decreasing annual depreciation expense over asset's useful life
- Twice straight-line rate with Double-Declining-Balance
- Rate applied to book value

Declining-Balance Method

Illustration for Barb's Florists

ILLUSTRATION 10.13

Double-declining-balance
depreciation schedule

Year	Computation		Annual Depreciation Expense	End of Year	
	Book Value Beg. of Year	$\times$ Depreciation Rate		Accumulated Depreciation	Book Value
2020	€13,000				
2021					
2022					
2023					
2024					

Declining-Balance Method

Partial Year

Assume the delivery truck was **purchased on April 1, 2020.**

Year	Book Value Beg. of Year	x	Rate	=	Annual Depreciation Expense	x	Partial Year	=	Current Year Expense	Accumulated Depreciation
2020	€13,000	x	40%	=	€5,200	x	9/12	=	€ 3,900	€ 3,900
2021	9,100		40		3,640				3,640	7,540
2022	5,460		40		2,184				2,184	9,724
2023	3,276		40		1,310				1,310	11,034
2024	1,966		40		786				786	11,820
2025	1,180	x	40	=	472					
									Plug → 180	
									<u>€12,000</u>	

DO IT! 2a | Straight-Line Depreciation

On January 1, 2020, Iron Mountain Ski purchased a new snow-grooming machine for €50,000. The machine is estimated to have a 10-year life with a €2,000 residual value. What journal entry would Iron Mountain Ski make at December 31, 2020, if it uses the straight-line method of depreciation?

Solution

Depreciation Expense	4,800	
Accumulated Depreciation		4,800
$(€50,000 - €2,000) \div 10 = €4,800$		

Depreciation and Income Taxes

Tax laws do not require taxpayer to use the same depreciation method on the tax return that is used in preparing financial statements.

Many companies use **straight-line** in their financial statements **to maximize** net income.

They also use an **accelerated depreciation** method on their tax returns **to minimize** their income taxes.

Revising Periodic Depreciation

- Accounted for in period of change and future periods (Change in Estimate)
- No change in depreciation reported for prior years
- Not considered an error
- Use a step-by-step approach:
 1. determine new depreciable cost
 2. divide by remaining useful life

Revised Depreciation

Illustration: Chambers Landscaping purchased a piece of equipment for £36,000. It estimated a 6-year life and £6,000 residual value. Thus, straight-line depreciation was £5,000 per year $[(£36,000 - £6,000) \div 6]$. At the end of year three (before the depreciation adjustment), it estimated the new total life to be 10 years and the new residual value to be £2,000. Compute the revised depreciation.

Revised Depreciation

Original depreciation expense = $[(£36,000 - £6,000) \div 6] =$
£5,000

Accumulated depreciation after 2 years = $2 \times £5,000 =$
£10,000

Book value = $£36,000 - £10,000 = £26,000$

Revised Depreciation

Book value after 2 years of depreciation	<u>£26,000</u>
Less: New residual value	<u><u>2,000</u></u>
Depreciable cost	<u><u>£24,000</u></u>
Remaining useful life (10 – 2)	<u><u>8 years</u></u>
Revised annual depreciation ($£24,000 \div 8$)	£ 3,000

Example(1):

In Emag Corporation a delivery truck cost L.E 10.000 and has an estimated residual value of L.E 1000 at the end of its estimated useful life of five years.

Required:

1. Compute the depreciation expense, accumulated depreciation & carrying value for the truck.
2. Prepare the journal entries at the end of the second year.
3. Show the effect on the financial statements at the end of the third year

Solution:

$$\text{Depreciation expense} = \frac{\text{Cost} - \text{residual value}}{\text{Estimated useful life}}$$

$$= \frac{\text{L.E. } 10000 - \text{L.E. } 1000}{5} = \text{L.E. } 1800$$

The depreciation for the five years would be as follows:

Depreciation schedule, straight – line method

	Cost L.E.	Depreciation expense L.E.	Accumulated Depreciation L.E.	Book Value L.E.
Date of purchase	10000	--	--	10000
End of first year	10000	1800	1800	8200
End of second year	10000	1800	3600	6400
End of third year	10000	1800	5400	4600
End of fourth year	10000	1800	7200	2800
End of fifth year	10000	1800	9000	1000

Journal Entry at the end of the second year

Date	Account name	Dr	Cr
1	Depreciation Expense	1800	
	Accumulated Depreciation		1800

The impact on the financial statements on the third year

Balance Sheet : Book value of Asset (Machine) L.E 40000

Income Statement: Depreciation Expense L.E 10000

On October 1, 2020, Holt Company places a new asset into service. The cost of the asset is €160,000 with an estimated 5-year life and €40,000 residual value at the end of its useful life. What is the depreciation expense for 2020 if Holt Company uses the straight-line method of depreciation?

- a. €6,000**
- b. €32,000**
- c. €8,000**
- d. €16,000**

Answer(A)

Equipment was purchased for \$120,000. Freight charges amounted to \$5,600 and there was a cost of \$16,000 for building a foundation and installing the equipment. It is estimated that the equipment will have a \$24,000 residual value at the end of its 5-year useful life. Depreciation expense each year using the straight-line method will be

- a. \$28,320.
- b. \$23,520.
- c. \$19,680.
- d. \$19,200.

Answer(B)

Thank You