

## Emission Rights – worked examples

### Scenario

Department A participates in the UK emissions trading rights scheme administered by DEFRA. This is a cap and trade scheme whereby allowances are traded in an active market. The scheme operates for compliance periods which run in accordance with the financial year. On the first day of the first period Department A is issued, free of charge, with allowances to emit 10,000 tonnes of carbon dioxide. The market price of allowances on that day is £15 per tonne which gives a fair value of £150,000.

After 6 months Department A has emitted 5,500 tonnes of carbon dioxide. However, it expects its emissions to be 10,000 by the end of the year i.e. equal to its allowance. The market price for allowances has risen to £20 per tonne.

At the year-end Department A measures its emissions for the year at 11,000 tonnes. On the last day of the year it buys a further 1,000 allowances to cover the emissions in excess of the allowances which it holds. The Department pays £18 per tonne for the additional 1,000 allowances.

The cost of producing emissions is recognised as an expense in the OCS.

1. On the first day of the year the department makes the following entries to record receiving the allowances free of charge (10,000 x £15)

DR Allowances (intangible asset)	£150,000
CR Government Grant (deferred income)	£150,000

2. At the end of the first 6 months the Department recognises the increase in the fair value of the allowances held (10,000 tonnes rising in price from £15 per tonne to £20 per tonne)

DR Allowances (intangible asset)	£50,000
CR Government Grant Reserve (revaluation)	£50,000

And, recognises as income the portion of the government grant that offsets the cost of emissions in the period (5,500 x £15)

DR Government Grant (deferred income)	£82,500
CR Income – OCS	£82,500

And recognises the increase in the liability for emissions to date (5,500 tonnes at £20 per tonne)

DR OCS emissions expense	£110,000
CR Liability to deliver allowances	£110,000

3. At the end of the year the Department recognises the decrease in the fair value of the allowances held (10,000 tonnes which have reduced in value from £20 per tonne to £18 per tonne)

DR Government Grant Reserve (revaluation)	£20,000
CR Allowances (intangible asset)	£20,000

And recognises as income the remaining portion of the government grant (150,000 + 50,000 – 82,500 – 20,000)

DR Government Grant (deferred income)	£97,500
CR Income	£97,500

And recognises the increase in the liability for emissions to date (11,000 tonnes measured at £18 per tonne minus £110,000 recognised at 6 months)

DR OCS emissions expense	£88,000
CR Liability to deliver allowances	£88,000

And recognises the purchase of an additional 1,000 tonnes of allowances at £18 per tonne

DR Allowances (intangible asset)	£18,000
CR Cash	£18,000

4 At the end of the compliance period (normally 3 years) the Department settles the liability for emissions made. If this were to happen at the end of year 1 the Department would make the following accounting entries:

DR Liability to deliver allowances	£198,000
CR Allowances	£198,000

The Department therefore reports:

Description	First half £	Second half £	Full Year £
<b>Income / expense in OCS</b>			
Government Grant – Income	82,500	97,500	180,000
Emissions expense	(110,000)	(88,000)	(198,000)
<b>Total</b>	<b>(27,500)</b>	<b>(27,500)</b>	<b>(18,000)</b>
<b>Balance Sheet</b>			
Asset:			
Allowances	200,000	(2,000)	198,000
Cash	-	(18,000)	(18,000)
Liabilities:			
Liabilities to deliver allowances	110,000	88,000	198,000
Government Grant Reserve*	117,500	(117,500)	-

\* The Government Grant Reserve

During 1<sup>st</sup> 6mths:

Receipt of allowances	150,000
Revaluation of Allowances	50,000
Released to OCS as deferred income	<u>(82,500)</u>

**Sub** **117,500**

During 2nd 6mths:

Revaluation of allowances	(20,000)
Release to OCS as deferred income	(97,500)

**Sub** **(117,500)**

**Total** **-**

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General Accounting Entries

**1) Allocated Allowances**

DR FA (intangible assets)  
CR Government Grant Reserve / cash (if purchase allowances)

**2) Make Emissions – record the liability**

DR OCS (best estimate of expenditure required to settle the obligation at  
BL sheet date)  
CR Provisions

**3) Make Emissions – apply allowances**

DR Government Grant Reserve  
CR Income

**4) Revalue Allowances**

DR / CR FA (intangible assets)  
CR / DR Government Grant Reserve / Revaluation

**5) Revalue the Liability**

DR / CR OCS (or credit to revaluation reserve)  
CR / DR Provision

**6) At the end of the compliance period**

DR Provision  
CR FA (intangible assets)