

New Zealand Government



# Report on The New Zealand Emissions Trading Scheme

30 JUNE 2011



Ministry for the  
**Environment**  
*Manatū Mō Te Taiao*



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## Acknowledgements

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## Foreword

The implementation of the ETS over the past year has been a complex job akin to difficult reforms like the introduction of GST, or the ITQ (Individual Transferable Quota) fishing system. I am pleased by how smoothly this work has progressed and encouraged by the investment changes the ETS is driving in the economy.

The basis for the scheme is that it is the most efficient way for New Zealand to reduce emissions and meet its Kyoto commitments. The scheme puts a price on emissions from sectors like industry, transport and electricity, and provides credits for foresters who absorb emissions with new plantings. The most complex parts of the scheme are the allocations provided to balance the playing field for sectors that have high emissions but whose overseas competitors do not face carbon charges, and the compensation paid out for loss of property rights for pre-1990 forests and fishing quota owners.

The sharp switch from deforestation to afforestation in 2009 reflects the significant costs of permanently removing forest and the income stream for new forests from the ETS. This change has had a dramatic impact on New Zealand's net emissions and is essential to meeting our Kyoto obligations over the period 2008–2012.

A key objective of the ETS is to alter New Zealand's path of electricity emissions that have grown 130 per cent since 1990, the largest increase of any sector. The ETS contributed to a 12-year high in renewable generation of 79 per cent in 2010 as generators choose to maximise the use of generous rainfall to avoid the cost of emissions.

The most encouraging feature is that 1340 MW of new renewable-generating capacity was consented in the past year with no new fossil-fuelled plants. This is a fivefold increase in renewables consented as compared

to the past decade, with most growth pre-ETS being fossil-fuelled.

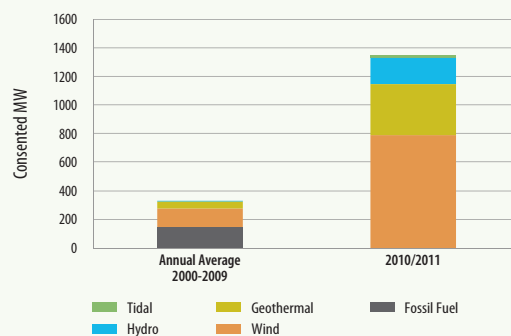
New Zealand is on target to meet its Kyoto obligations. Our net emissions are down for two consecutive years, the first time since 1990. Without the scheme, the New Zealand taxpayer could have faced a substantially greater cost of meeting New Zealand's obligations through paying for increased emissions.

It is clear the ETS has got off to a good beginning. We now need to monitor progress to ensure it operates as intended and helps achieve the goal of New Zealand doing its fair share globally on climate change, and at the least cost to our economy.

**Hon Dr Nick Smith**  
Minister for Climate Change Issues

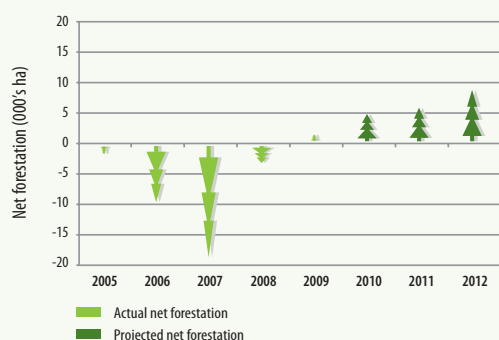
### → Consented new generation by type

FIGURE 2



### → Net change in planted forest area

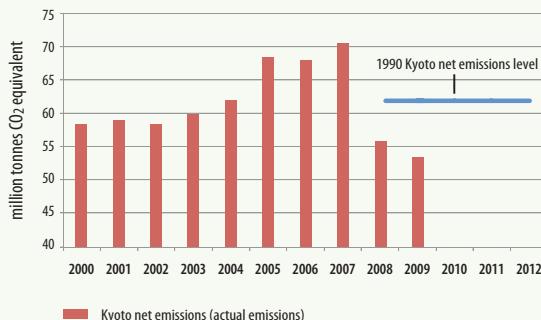
FIGURE 1



Source: Ministry of Agriculture and Forestry and Ministry for the Environment.

### → New Zealand's Kyoto net greenhouse gas emissions: 2000–2012

FIGURE 3



Source: New Zealand's Greenhouse Gas Inventory 1990–2009, Ministry for the Environment 2011. Kyoto net 2000–2007 values are back casted.



## Executive summary

New Zealand's emissions trading scheme (ETS) was introduced by the Government as the lowest cost way to reduce this country's greenhouse gas emissions.

This is the first annual report on the scheme.

Forestry was the first sector of the New Zealand economy to join the ETS, on 1 January 2008. From 1 July 2010, three new sectors – energy, industry and transport – faced an obligation to surrender units according to the level of their emissions. Their entry established a tradable market for carbon in New Zealand.

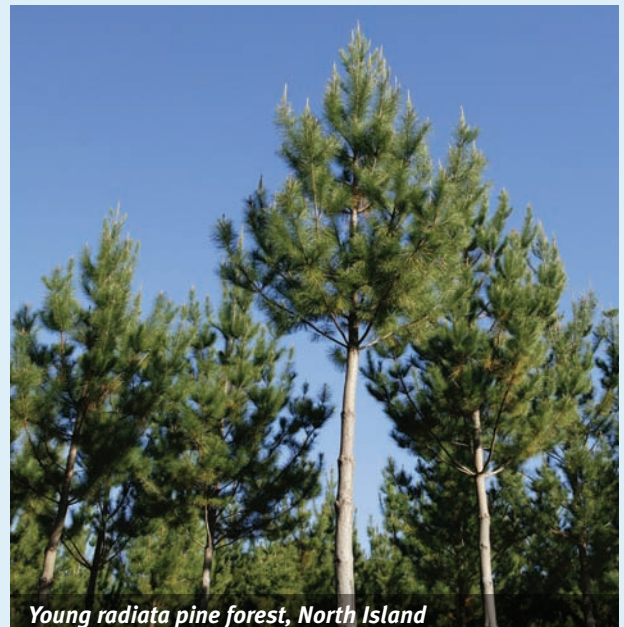
The three new sectors brought 37 business activities into the ETS. Most New Zealand businesses will not participate directly in the scheme, because it is designed to transfer the cost of emissions to those highest in the supply chain – the point of obligation.

A transition phase for the new entrants is in place until the end of 2012. During this phase, participants are only required to surrender one unit for every two tonnes of carbon dioxide equivalent emitted. During the transition, participants may also choose to pay the Government a fixed price of NZ\$25 per tonne of emissions, rather than surrender emission units.

The Government has made some allocations to compensate for the loss of property value. These apply to fisheries quota holders and to owners of pre-1990 forest lands. Annual allocations are also made to some businesses in the industrial sector whose competitiveness would be put at risk by higher energy prices. Initial estimates were that 80–100 businesses would receive allocations; this has risen to nearly 300 eligible businesses.

Among businesses participating in the ETS, a high proportion has met their reporting and surrender obligations.

Early signs are that a price on carbon has successfully entered the New Zealand economy; businesses and foresters are factoring in this price into their long-term decisions, and passing the price of carbon down to consumers.



*Young radiata pine forest, North Island*



## Why New Zealand has an emissions trading scheme

New Zealand introduced an emissions trading scheme (ETS) because it is the lowest cost way to reduce our emissions of greenhouse gases. Scientists believe that the increase in these gases is causing global climate change which will lead to rising seas, and more frequent and more severe storms, floods and droughts. The effects of climate change, and the response to it, present a major national and global challenge.

The cost of doing nothing about climate change could be high. Besides the obvious long-term impacts of climate change to an economy that relies heavily on primary production and tourism, consumers here and around the world increasingly seek out businesses and products that demonstrate environmental credentials, including reducing

their impacts on global climate change. This includes reducing our greenhouse gas emissions.

If New Zealand is to continue to trade on its clean, green brand, we need to demonstrate that we are serious about reducing greenhouse gas emissions. The Government is working towards three emission reduction targets: its international obligations under the Kyoto Protocol, its conditional 2020 target,

and its long-term domestic target of a 50 per cent reduction in net emissions by 2050 (**see text box 1**).

Official policy advice, in New Zealand and overseas, supports putting a price on carbon as the most credible and lowest cost way to reduce emissions. The ETS does this by passing on the costs of reducing emissions to emitters, as they are best placed to find the most cost-effective way of doing this.



Power pylons, Desert Road, North Island

### **Text box 1:**

#### **What are New Zealand's international obligations?**

*New Zealand takes its international obligations seriously. This is why in 1997, along with most other countries, New Zealand signed the Kyoto Protocol and made a commitment to do its fair share to limit the effects of climate change. The Protocol requires New Zealand to take responsibility for reducing its greenhouse gas emissions to 1990 levels for the period 2008 to 2012, or pay for the difference.*

*Under the Kyoto Protocol, New Zealand has been given an 'assigned amount' of units (AAUs) that corresponds to five times its 1990 levels. Every AAU represents one tonne of carbon dioxide equivalent (carbon dioxide is one of the principal greenhouse gases). In addition, New Zealand will receive Removal Units (RMUs) for every tonne of carbon dioxide equivalent absorbed in its forests planted post 1989.*

*Over the five-year period 2008 to 2012, New Zealand can emit, without cost, an amount equal to the number of AAUs and RMUs it holds. Any additional emissions must be paid for by the purchase of additional units.*

*The ETS assists New Zealand in meeting its international obligations, by placing incentives to reduce emissions.*



## How the emissions trading scheme works

### A market for greenhouse gas emissions

The principle behind the ETS is to 'put a price on carbon'. It does this by creating a market for greenhouse gas emissions. Businesses that emit greenhouse gases are required to report their emissions, and pay for each tonne of carbon dioxide equivalent they emit by surrendering emission units (see text box 2) to the Government. They can purchase these units from businesses that carry out activities which remove greenhouse gases from the atmosphere (eg, forestry). These businesses earn emission units on the basis of emissions removals, which they also report.

Every emission unit in the ETS represents one tonne of carbon dioxide equivalent. The principal

unit of trade in the ETS is the New Zealand Unit (NZU). These units are transacted between buyers and sellers in the market through the New Zealand Emission Unit Register (NZ EUR). In addition, certain types of international emission units can be traded.

### Where the responsibility lies

The ETS is designed to transfer the cost of emissions onto those responsible for emissions. However, the administrative task of making everyone accountable for their own emissions is too complex. Instead, an approach is taken to place the obligations as high up the supply chain as possible. Those businesses that take on this 'point of obligation' are then able to pass on the price of carbon to consumers.

This approach allows the price of carbon to flow down through the economy, allowing consumers to make decisions based on price without placing an administrative burden on them.

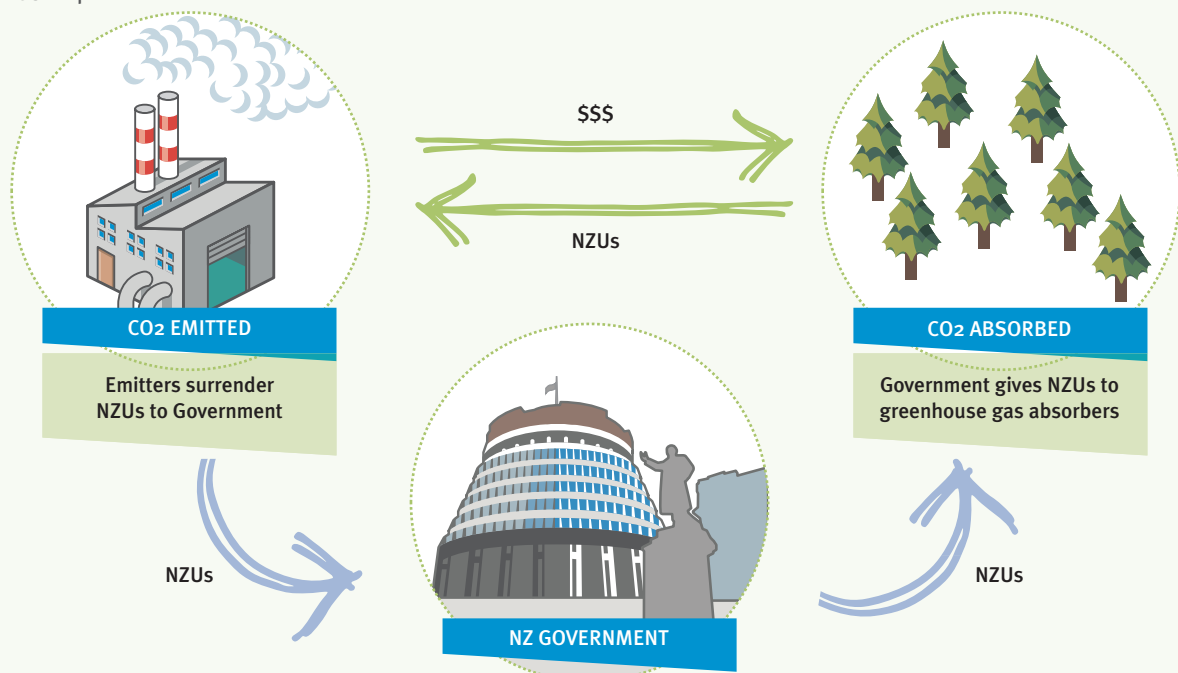
### Who participates?

Most New Zealanders don't participate directly in the ETS. Businesses that currently participate directly are grouped into four sectors: forestry, energy, transport, and industry. They will participate in one or more ways: some will earn NZUs for removing greenhouse gases, some will have to surrender units for their emissions, and some will receive an allocation of NZUs.

On 1 January 2008, forestry was the first sector to enter the ETS. Because New Zealand's international

#### → The basic concept of the ETS

FIGURE 4







obligations are calculated according to a 1990 baseline, forestry is split into two groups: forest planted before 1 January 1990 (pre-1990 forestry) and forest planted after 31 December 1989 (post-1989 forestry). Refer to the 'Forestry' section of this report for more details.

From 1 July 2010, the energy, transport and industry sectors faced an obligation to surrender units based on their emissions (their 'surrender obligations'). See the relevant section on each sector for more details. This surrender is performed by transferring units from the participant's account in the NZ EUR to the Government's account.

Some businesses receive an allocation of units, either to protect them from a loss of competitiveness, or to compensate them for a loss

of value in their assets. See the sections on 'Forestry', 'Industry', and 'Fishing' for more details on allocations.

## Voluntary and mandatory participation

Among the sectors included in the ETS, there are two types of participants. Businesses that have a point of obligation placed on them are called mandatory participants. Those who choose to enter the ETS are voluntary participants.

### Mandatory participants

Twelve types of business activity require mandatory participation (see figure 5). By the end of June 2011, 96 mandatory participants had registered with the ETS. Details are on the New Zealand Emission Unit Register website: [www.eur.govt.nz](http://www.eur.govt.nz)

### Voluntary participants

The vast majority of voluntary participants are post-1989 foresters. If they choose to enter the ETS, they can claim NZUs for the carbon dioxide their trees absorb as they grow. However, they also must surrender these units if they harvest or deforest.

One company, Methanex New Zealand, also chooses to participate in the ETS on a voluntary basis. It does this because it earns NZUs for production of methanol. The greenhouse gases stored in methanol are assumed to be permanently embedded, and therefore removed from the atmosphere.

Nine businesses that buy jet fuel, natural gas and/or coal also opted into the scheme voluntarily. They did this because they felt they were better able to manage the point of obligation.

**Table 1: Activities that trigger mandatory participation in the ETS, and the number of registered participants as at the end of June**

ACTIVITY	REGISTERED PARTICIPANTS
▶ Deforesting pre-1990 forest land	3
▶ Owning obligation fuel (that is, supplying fuel covered by the ETS)	5
▶ Importing coal	3
▶ Mining coal	18
▶ Importing natural gas	2
▶ Mining natural gas	41
▶ Using geothermal fluid	10
▶ Combusting used or waste oil, tyres or waste	4
▶ Producing iron or steel	2
▶ Producing aluminium	1
▶ Producing clinker or burnt lime	5
▶ Producing glass	2



**Table 2: Activities carried out by voluntary participants**

ACTIVITY	REGISTERED PARTICIPANTS
▶ Owning post-1989 forest land	1,159
▶ Holder post-1989 forest land	36
▶ Holder post-1989 forestry lease	11
▶ Producing a product with embedded substances	1
▶ Purchasing obligation jet fuel	4
▶ Purchasing natural gas	3
▶ Purchasing coal	2

## How do businesses participate?

As with the tax system, the ETS is based on a self-assessment system. Participants have to report the quantity of greenhouse gases they have emitted or removed over the previous calendar year by the end of March. These are known as ‘emissions returns’.

Based on these emissions returns, participants will then either receive or surrender units. NZUs earned are transferred to the participant’s own NZ EUR account. Participants who face a surrender obligation have a number of options in terms of the types of units they can surrender to the Government’s NZ EUR account (see text box 2). During the current transition phase, they are also able to pay the Government a fixed price of \$25 per tonne of emissions.

Participants with a surrender obligation must either surrender units or pay the fixed price by 31 May for the previous calendar year’s submissions.

### **Text box 2:**

#### **Emission units**

*As noted previously, NZUs are the principal unit of trade in the ETS. However, certain other types of units are also able to be traded and surrendered.*

*The ETS operates within the framework of a broader global market in emissions. The ETS is linked to this international market by allowing participants to purchase some units available internationally. In addition, foresters are able to sell their units offshore.*

*Under the Kyoto Protocol, countries with emission targets (including New Zealand) are issued AAUs equivalent to their target. The New Zealand Government has given some of these units to companies that are participating in projects which complement the ETS and reduce emissions (the Permanent Forest Sink Initiative and the Projects to Reduce Emissions). These NZ AAUs can either be sold offshore or to New Zealand businesses to help them meet their surrender obligations. NZUs issued to foresters are also able to be converted into AAUs. These can then be sold offshore.*

*The Kyoto Protocol also allows for units called Certified Emission Reduction units to be generated by Clean Development Mechanism (CDM) projects in developing countries. Projects which reduce emissions in developed countries are known as Joint Implementation (JI) projects and generate Emission Reduction Units (ERUs). Participants in the ETS are able to purchase certain types of these units and use them to meet their surrender obligation in New Zealand.*

*During this first surrender period (1 July to 31 December 2010), the vast majority of units surrendered have been NZUs, with some CERs and NZ AAUs also surrendered. No ERUs were surrendered during this period.*





## Types of units surrendered

FIGURE 5

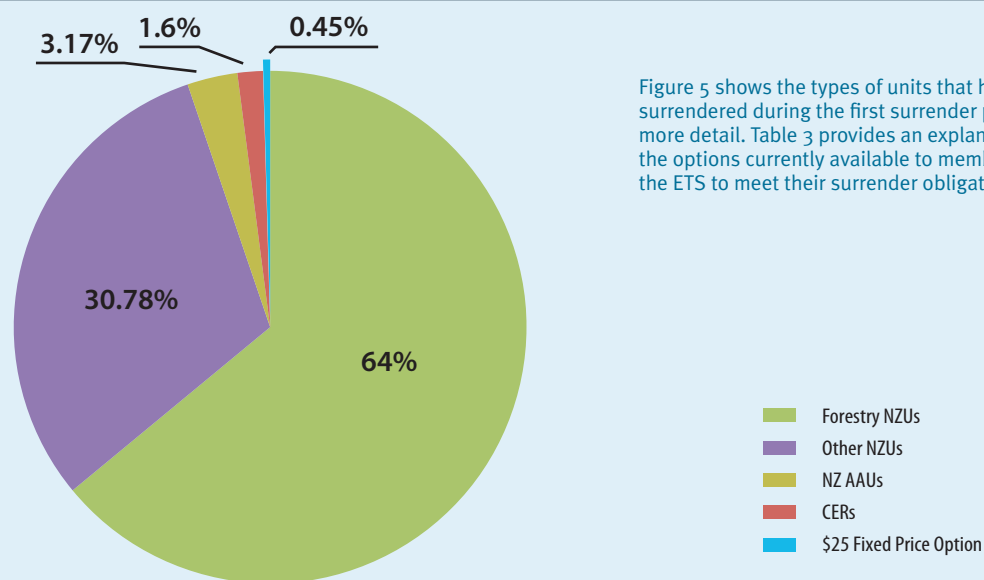


Figure 5 shows the types of units that have been surrendered during the first surrender period in more detail. Table 3 provides an explanation of the options currently available to members of the ETS to meet their surrender obligations.

**Table 3: Options currently available to members of the ETS to meet their surrender obligations**

NZUs (New Zealand Units) 5,314,161	NZUs given to foresters in the ETS. They may be converted to NZ AAUs for offshore sale.
Other NZUs 2,556,141	All other NZUs. At present, they cannot be converted to NZ AAUs.
NZ AAUs (Assigned Amount Units) 262,883	New Zealand based AAUs. Can be either: › Forestry NZUs that have been converted into NZ AAUs, or › NZ AAUs that have been granted to some companies in New Zealand that have participated the Projects to Reduce Emissions (PRE) or the Permanent Forest Sink Initiative (PFSI).
CERs (Certified Emission Reduction) 133,150	CERs are units generated by Clean Development Mechanism (CDM) projects offshore. These units are able to be purchased by participants in the ETS and used to meet their surrender obligations.
NZ\$25 Fixed Price Option 37,325	Some companies have chosen to pay the Government a NZ \$25 fixed price per tonne of emissions, rather than surrender the other types of eligible units.

## The moderated ETS and transition phase

The ETS was amended in 2009 in order to moderate its impact during the worldwide economic downturn. The principal amendment was the inclusion of a transition phase which runs from 1 July 2010 to 31 December 2012. Key elements are:

- ▶ participants have the option to buy NZUs from the Government (instead of the market) for a fixed price of NZ\$25 per NZU
- ▶ participants in the liquid fossil fuels, energy and industrial sectors are only required to surrender one unit for every two tonnes of emissions produced
- ▶ non-forestry NZUs cannot be converted to AAUs for sale offshore until the transition phase ends.



## Sector report: Forestry

New Zealand forests play a critical role in meeting our climate change objectives – reducing emissions and limiting our liabilities under the Kyoto Protocol. As trees grow, they absorb carbon dioxide from the atmosphere and store it as wood.

This process is recognised under the Kyoto Protocol. When the trees are cut down, the stored carbon is assumed to be released (emitted) back into the atmosphere.

Because New Zealand's initial assigned amount of AAUs was calculated using a 1990 baseline, we have to pay back units for the deforestation of any land that was in forest before 1990. But forests planted after 1989 earn RMUs (see **text box 1**) for their carbon removals.

This is the why the ETS makes the distinction between pre-1990 and post-1989 forestry.

### Pre-1990 forestry

Pre-1990 forest is land that was covered in forest on 31 December 1989, and remained covered by predominately exotic forest on 31 December 2007 – just before New Zealand's Kyoto Protocol obligations began.

Under the Kyoto Protocol, New Zealand must account for emissions from these forests if they are deforested. Therefore, if we cut the trees down and do not replant them, our liability under the Protocol will increase. The ETS passes this liability onto landowners.

It is important to note that pre-1990 forest landowners do not have obligations under the ETS if their land is not permanently deforested – that is if harvesting is followed by replanting or regeneration of native forest.

However, if more than two hectares of pre-1990 forest are deforested in any five-year period after 1 January 2008, its owners are mandatory participants in the ETS and must surrender units to cover the resulting emissions. The aim is to provide a strong disincentive to logging pre-1990 forests and changing land use.

### An allocation to compensate for loss of land value

The value of some pre-1990 forest land has decreased because under the ETS landowners now have to pay carbon charges if they want to convert their land to other uses. In response, the Government is providing pre-1990 forest

landowners with an allocation of NZUs to compensate them for this loss of land value. Initial estimates were that 43.8 million NZUs would be allocated to pre-1990 forest landowners.

NZUs are allocated on the basis of the mapped area of eligible pre-1990 forest land, and when the landowner acquired their pre-1990 forest land as follows:

- ▶ owners of pre-1990 forests acquired before 1 November 2002 receive 60 NZUs per hectare
- ▶ those who acquired their forest on or after 1 November 2002 receive 39 NZUs per hectare
- ▶ in addition, 18 NZUs per hectare have been set aside for Treaty claimants who receive Crown Forest Licence (CFL) land.

The NZUs are transferred to landowners in two tranches, with the first tranche to be transferred before 31 December 2012, and the second in 2013, as set out in **table 4**.

**Table 4: Tranche 1 and 2 allocations**

	Transferred before 31 December 2012	Transferred after 31 December 2012
Owners of forest bought before 1 November 2002	23 NZUs per hectare	37 NZUs per hectare
Owners of forest bought on or after 1 November 2002	15 NZUs per hectare	24 NZUs per hectare
CFL land as at 1 Jan 2008	7 NZUs per hectare	11 NZUs per hectare



The second part of the allocation may be reduced or cancelled if the legislation changes.

To receive an allocation, pre-1990 forest landowners have to apply. By 1 July 2011, 1074 applications had been received, covering 0.6 million hectares. This is about half the estimated 1.2–1.4 million hectares of pre-1990 forest land.

Applications for pre-1990 forestry allocations close on 30 November 2011.

## Exemptions

### Fewer than 50 hectares

Landowners who own fewer than 50 hectares of pre-1990 forest have until 30 September 2011 to apply for a deforestation exemption from the ETS. An exemption means they will not have to surrender units if they deforest. So, as at the end of June, 2500 hectares of pre-1990 forest land has been declared exempt (compared to an estimated 17,000 hectares).

### Tree weed exemptions

Trees considered weeds because they degrade the amenity, recreational, ecological and/or economical values of a landscape may be exempt from the ETS – this is to avoid the perverse scenario where people are penalised for removing tree weeds. Wilding pines and other conifers growing in the South Island's high country tussock grassland are examples of tree weeds.

A tree weed exemption allows the landowner to deforest pre-1990 tree weed areas without incurring deforestation liabilities. Both naturally generated tree weeds and planted or sown tree weed forests can be considered tree weeds.

Eligible tree weed species are listed in regulations, or in local government regional pest management strategies.

Two application rounds for tree weed exemptions have been held for the five years to 31 December 2012. In total, 32 applications were received, covering 780 hectares (compared to an estimated 1,992 hectares).

## Post-1989 forestry

Post-1989 forest land is exotic or native forest established after 31 December 1989 on land that was previously not forested. These forests are eligible to earn NZUs for carbon absorbed from 1 January 2008.

Post-1989 foresters can choose to become voluntary participants in the ETS. They will earn NZUs for the carbon they remove. These NZUs must be surrendered when trees are harvested.

Foresters must file emissions return at the end of every five-year period. The first deadline is 31 March 2013. However, they can choose to report and claim credits more frequently – every year, or after two, three or four years, or any combination of these.

Foresters then receive NZUs for the removals they have reported.

Since forestry joined the ETS in 2008, 1206 post-1989 foresters have opted into the scheme (see table 2 on voluntary participants). Together they own 199,629 hectares of forested land, which equates to about 32 per cent of the eligible area.

A total of 14.4 million carbon dioxide equivalent emissions have been claimed by post-1989 forestry, of which 9.2 million were claimed in calendar year 2010.



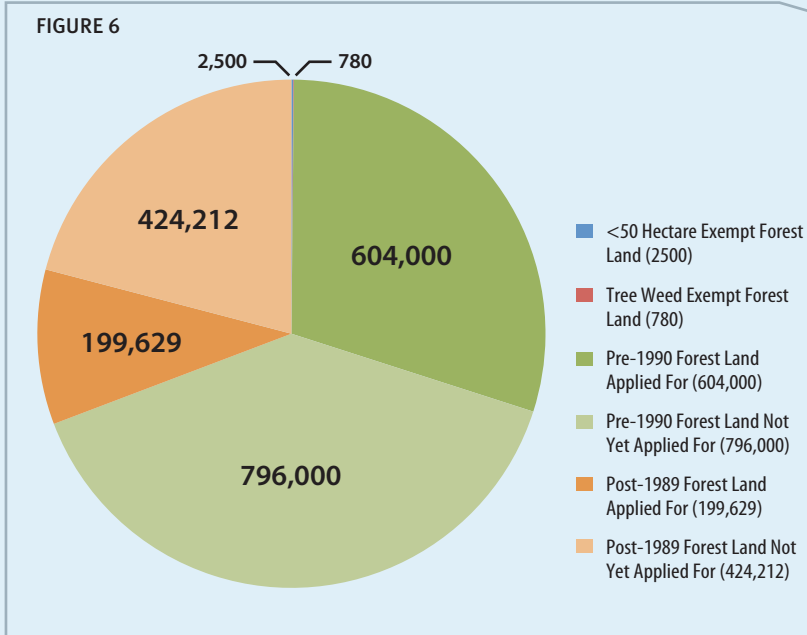
## Reversing the trend

One of the reasons the ETS was brought in was to create a disincentive to deforestation.

**Figure 7** shows the net change in planted forest area for the period 2005 to 2010 and future projections.

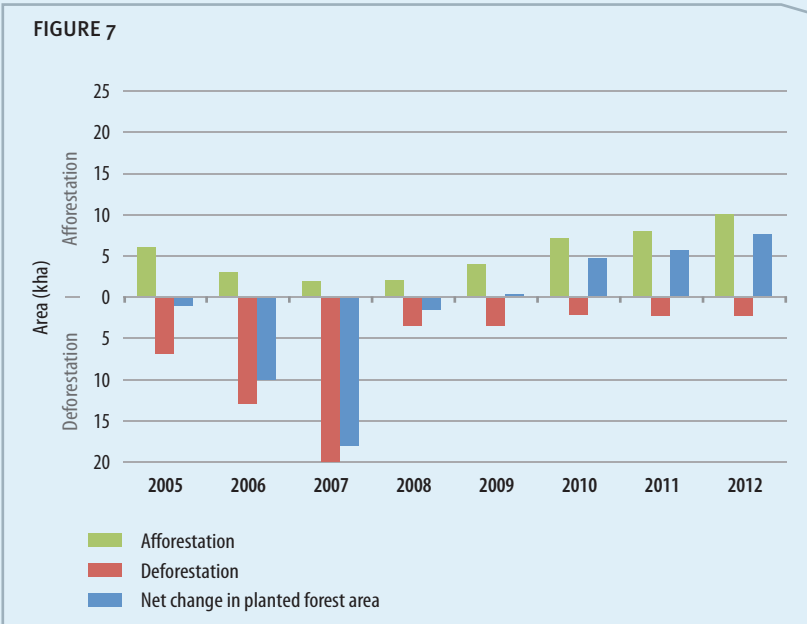
There has been a change in the deforestation trend in New Zealand, which hit a record 40,000 hectares between 2005 and 2008. Since forestry entered the scheme, new forest plantings (afforestation) have grown each year, with 8000 hectares expected in 2011.

### → Distribution of forest land (in hectares) under the ETS



Note: The figure for pre-1990 forest land not yet applied for assumes the upper estimate of 1.4m hectares eligible forest.

### → Estimated annual net change in planted forest area in 2005 to 2012



Note: The 2005–2008 figures shown in figure 7 above are actual figures. The 2009 figures are provisional, while the 2010–2012 figures are projected. Source: Ministry of Agriculture and Forestry and Ministry for the Environment.



## Sector report: Transport

The transport sector covers the use of liquid fossil fuels, which includes some fuels used for non-transport purposes. The fuels covered in this sector are petrol, diesel, aviation gasoline, jet kerosene and fuel oil. These are known as obligation fuels.

The point of obligation for emissions from the use of liquid fossil fuels is upstream, on fuel suppliers (when they purchase fuel), rather than emitters (eg, road users). In practice, this means fuel wholesalers. Participation in the ETS is mandatory for the five companies operating in New Zealand (**see table 1** on mandatory participants). As they pass on their costs to end users, the price of petrol has increased by an estimated 3.5 cents a litre.

Some airlines (emitters) have chosen to opt in to the ETS and take on this point of obligation themselves in order to be able to directly manage their emission obligations and costs. Four companies have made this choice (**see table 2** on voluntary participants). They face the same reporting and surrender obligations as the five mandatory participants.



*Cars on the motorway into Wellington city*

The transport sector does not receive allocations from the Government, because it is able to pass the full cost on to customers.

Businesses in this sector are required to monitor and report on their emissions for every calendar year. They submit their emission report in March of the following year, and surrender units in May. For the first surrender period, these companies were only required to surrender units for the six months between 1 July and 31 December 2010. Because of the transition phase, they were only required to surrender one unit for every two tonnes of carbon dioxide equivalent emitted.

See the report's 'Conclusion' for details of estimated versus actual emissions and surrenders.



## Sector report: Energy

The energy sector covers all fuels used for electricity generation and in the direct production of power and heat.

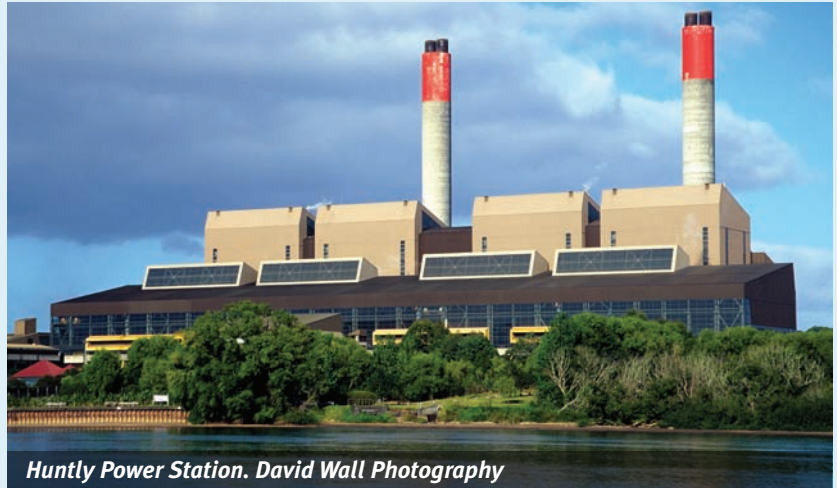
The point of obligation for the energy sector is those companies that mine or import coal or natural gas, use geothermal fluids, or burn waste oil, tyres or waste to produce power or heat (see table 1 on mandatory participants).

Participation in the ETS is mandatory for the 78 companies engaged in these activities in New Zealand.

As with the transport sector, other companies lower down the supply chain can opt in to the ETS, and take on a mandatory participant's obligation. For example, an electricity generator using coal can choose to take on the surrender obligation of the mining company it buys its coal from. In these circumstances, the supplier of coal or gas is not liable for these emissions. Currently, there are five companies who have opted in to the ETS. They face the same reporting and surrender obligations as the 78 mandatory participants whose obligations they have taken on.

The energy sector does not receive allocations from the Government, because it is able to pass the full cost on to customers.

Businesses in this sector are required to monitor and report on their emissions for every calendar year. They submit their emissions report in March of the following year, and surrender units in May. For the first surrender period, these companies were only required to surrender units for the six months between 1 July and 31 December 2010. Because of the



*Huntly Power Station. David Wall Photography*

transition phase, they were only required to surrender one unit for every two tonnes of carbon dioxide equivalent emitted.

The scheme's first year has seen resource consents granted for 12 new renewable power stations, which will produce 1400MW of electricity – this is five times the average over the past decade, when most new power plants were fossil-fuelled.

While it is too early to be able to determine the long-term impacts of the scheme on emissions from the electricity sector, this is a positive indication.

See this report's 'Conclusion' for details of estimated versus actual emissions and surrenders.





## Sector report: Industry

The emissions included in this sector are from certain industrial activities. Emissions from combustion and emissions relating to energy production are included in the energy sector.

The activities in the industry sector that are covered by the ETS are the production of:

- ▶ iron or steel
- ▶ aluminium
- ▶ clinker or lime
- ▶ glass.

The point of obligation for this sector lies with the companies that carry out these activities – there are no opt-in participants. These companies are mandatory participants.

Mandatory participants in this sector are required to monitor and report on their emissions for every calendar year. They submit their emission report in March of the following year, and surrender units in May. For the first surrender period, these companies were only required to surrender units for the six months between 1 July and 31 December 2010. Because of the transition phase (see ‘**How the ETS works**’), they were also only required to surrender one unit for every two tonnes of carbon dioxide equivalent emitted.

See this report’s ‘Conclusion’ for details of estimated versus actual emissions and surrenders.



*Sparks fly during steelmaking at Glenbrook Steel Mill. Photo NZ*

### Allocations

Businesses in this sector – including horticulture – are eligible to receive an allocation of NZUs. They use large amounts of energy to make their products or have significant emissions associated with the industrial process and therefore face an increase in their costs as a result of the ETS. They also face competition from overseas producers, who might not face a price on emissions. That makes these New Zealand companies emissions intensive and trade exposed – until their overseas competitors also have to pay emissions charges, their competitiveness is at risk and they cannot increase their prices to pass on their extra costs.

Companies carrying out these emissions-intensive and trade-exposed activities are being compensated through an allocation of NZUs from the Government. The allocation is based on how emissions intensive the activity is:

- ▶ moderately emissions intensive – those that emit 800 tonnes of carbon dioxide equivalent gases per NZ\$1 million worth of production (or roughly 1 per cent of their turnover). These are eligible for an allocation level of 60 per cent
- ▶ highly emissions intensive – those that emit 1600 tonnes of carbon dioxide equivalent gases per NZ\$1 million worth of production (or roughly 2 per cent of their turnover). These are eligible for an allocation level of 90 per cent.

Initially it was thought that allocations would cover the main industrial activities (those that are mandatory participants). However, as the scheme got under way, it became apparent that other businesses would also qualify – for example, growers of hothouse tomatoes use a lot of energy, and their fuel bills have gone up as fuel suppliers pass on their rising costs of coal, electricity and gas.



Twenty-six activities are currently eligible for the allocation (see table 5). Any company that meets the criteria for being emissions intensive and trade exposed can apply to the Ministry for the Environment to have its activity assessed for inclusion.

The inclusion of eligible activities, such as fresh tomatoes, cucumbers, capsicums and cut roses, means initial estimates of 80–100 heavy industrial businesses being involved have risen to nearly 300 businesses that are able to receive allocations.

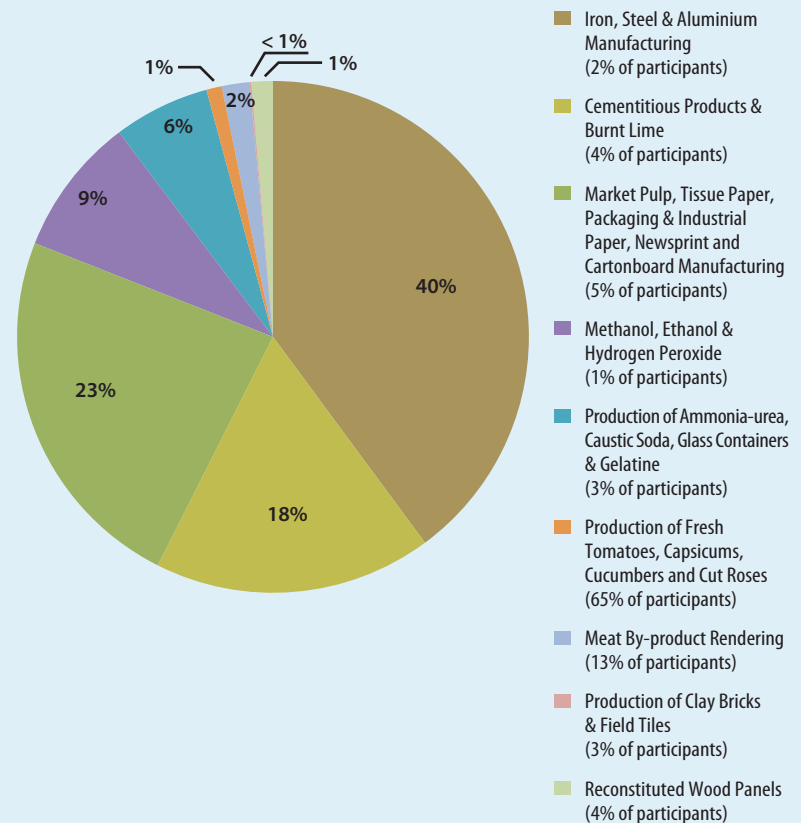
NZUs are allocated annually, and can be applied for in advance at the beginning of the calendar year or in arrears after the year is completed. These allocated NZUs can be sold or traded, or they can be used to meet the participant's own surrender obligation.



*Young capsicum crop. Photo courtesy Horticulture NZ*

#### → Allocations by activity (%)

FIGURE 8





**Table 5: Industrial allocation activities and products**

■ 90% level of assistance ■ 60% level of assistance

Activity	Product	NZUs allocated per tonne of product produced*
1. Aluminium smelting	Primary Aluminium	4.36
2. Burnt lime	Burnt lime	0.64
3. Carbamide (urea)	Carbamide (urea)	0.73
4. Carbon steel from cold ferrous feed	Cast carbon steel products	0.12
	Long products of hot-rolled carbon steel	0.04
5. Cartonboard	Rolls or sheets of coated or uncoated cartonboard	0.5
	Pulp produced directly from wood billets, wood chips, or sawdust	0.21
	Pulp produced directly from recovered paper	0.21
6. Caustic soda	Caustic soda	0.72
7. Cementitious products	Portland cement clinker	0.42
	Cement	0.01
8. Clay bricks and field tiles	Facing bricks and pavers	0.07
	Field tiles and other clay-based products	0.26
	Fire bricks	0.07
9. Cut roses	Cut flowering rose stems (per 100,000 cut roses produced)	0.42
10. Ethanol	Ethanol	0.44
11. Fresh capsicums	Fresh capsicums	1.06
12. Fresh cucumbers	Fresh cucumbers	0.99
13. Fresh tomatoes	Fresh tomatoes	0.73
14. Gelatine	Gelatine	1.92
15. Glass containers – blown & pressed	Blown and pressed glass containers	0.18
16. Hydrogen peroxide	Hydrogen peroxide	0.62
17. Iron and steel from iron sand	Molten iron	1.38
	Cast carbon steel products	0.05
	Vanadium bearing materials	0.12
	Flat products of hot-rolled carbon steel	0.07
18. Lactose	Lactose	0.43
19. Market pulp	Low-yield pulp	0.26
	High-yield, low-freeness pulp	0.6
	High-yield, high-freeness pulp	0.46
20. Methanol	Methanol	0.35
21. Newsprint	Rolls of uncoated newsprint	0.22
	Pulp produced directly from woodchips or sawdust	0.60
	Saleable rolls of uncoated packaging and industrial paper	0.21
22. Packaging and industrial paper	Pulp produced directly from woodchips or sawdust	0.23
	Pulp produced directly from recovered paper	0.04
23. Protein meal	Protein meal	0.28
24. Reconstituted wood panels	Reconstituted wood panels	0.06
25. Tissue paper	Rolls of uncoated tissue paper	0.36
	Pulp from woodchips or sawdust	0.23
26. Whey powder	Whey powder	0.25

\*Number of NZUs per tonne is halved during the transition period that ends 31 December 2012.



## Sector report: Fishing

The fishing industry does not participate directly in the ETS.

However, the Government recognised that fishers could be financially penalised by rising fuel prices as their suppliers pass on the costs of meeting their surrender obligations.

The Government therefore made a one-off allocation of emissions units to holders of fishing quota under New Zealand's fisheries quota management system. The allocation compensates them for any fall in the value of their quota due to cost increases resulting from the ETS.

Units were allocated to fishing quota owners listed in FishServe's national quota register on 24 September 2009 (see <http://www.fishserve.co.nz/about/>).



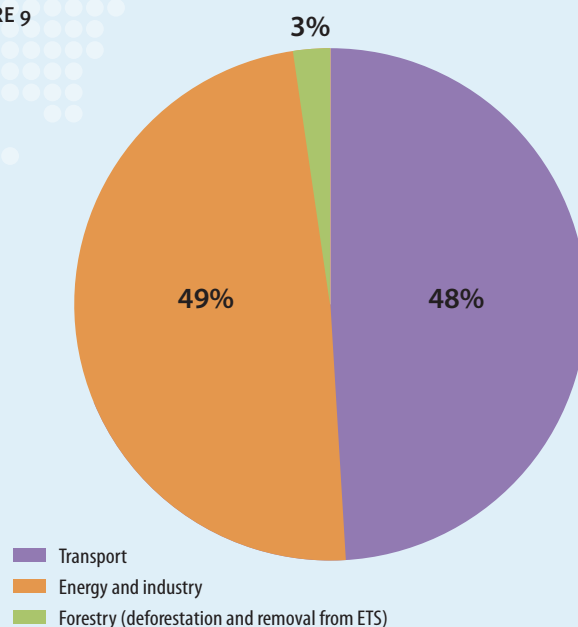
*Commercial fishing trawler off Otago coast, Dunedin. David Wall Photography*

A total of 700,000 units were set aside for fishing quota owners, of which about 99 per cent had been allocated by 24 June 2011. Units were allocated in proportion to the total fishing quota.

More than 800 quota owners were each allocated a portion of the 0.7 million NZUs set aside for fishing allocations. The 20 largest quota holders received 85 per cent of the total.

### → Surrenders by sector

FIGURE 9



Note: The forestry figures above cover a 12-month period (not six months as per the other two sectors).





## Conclusion

In its first 12 months, the ETS has performed to expectations.

Emissions over the first reporting period from the combined industrial, electricity and transport sectors were initially projected to be approximately 18.86 million tonnes. At the end of the reporting period, actual reported emissions were 16.3 million tonnes (see figure 10).

The Government initially expected to allocate to businesses 4.7 million NZUs each year. It now seems the annual allocation will be 25 per cent lower – at 3.5 million units (see figure 11).

Expected transfers of NZUs to the forestry sector have been substantially lower than estimates. Over the five years from 2008–2012,

it was anticipated that 76.1 million NZUs would be given to foresters. This includes NZUs given to post-1989 foresters for removals over the period 2008–2012 and the allocation of NZUs given in two tranches to pre-1990 foresters. However, just over one-quarter have been allocated to date. This may change, as post-1989 foresters can claim units up to 2012, and pre-1990 forestry owners can apply for an allocation until 30 November 2011.

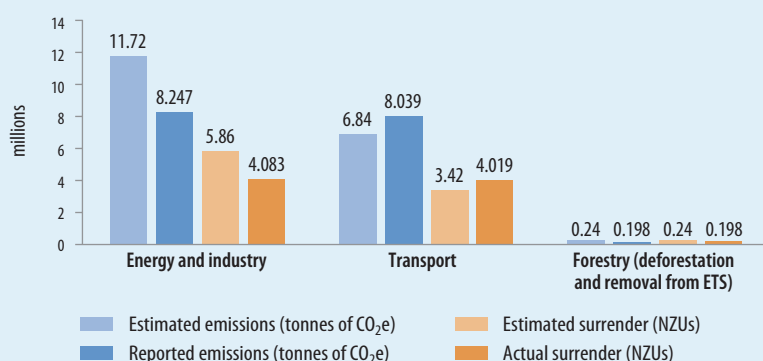
Participants have generally met all their reporting and surrender obligations. Of these 102 participants, 100 submitted an emissions return before the due date. Surrenders have been received from all but two participants. Those two have received an extension due to amendments to their emissions returns.

See figure 9 on opposite page for a breakdown of surrenders by sector for the 2010 calendar year.

This year has seen the successful introduction into the ETS of businesses carrying out 37 activities. There are encouraging signs that a price on carbon is gradually being introduced into New Zealand's economy, and that this price is beginning to work its way towards the Government's goals of reducing emissions and managing the cost of New Zealand's international climate change obligations.

### → Estimated versus actual emissions and surrenders

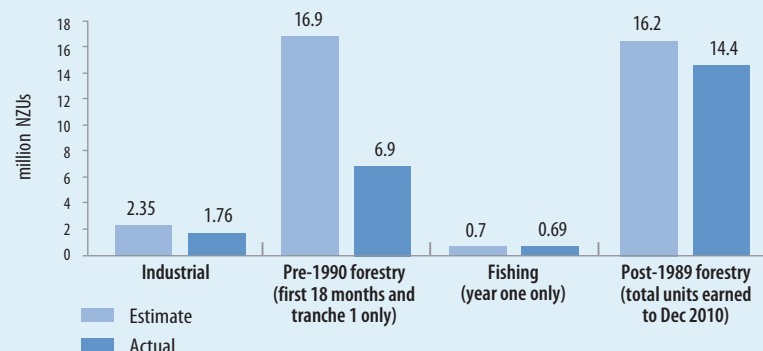
FIGURE 10



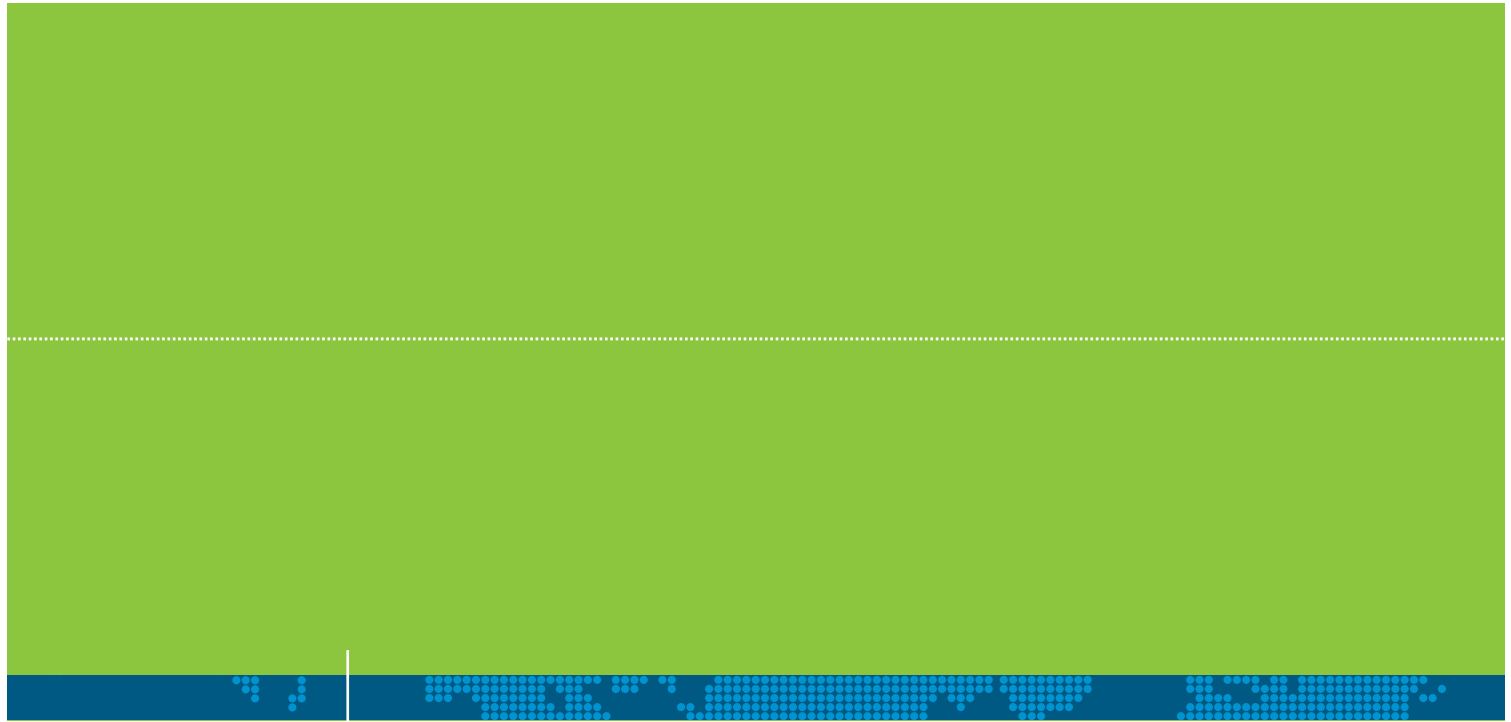
Note: The forestry figures above cover a 12-month period (not six months as per the other two sectors).

### → Estimated versus actual (Units allocated and earned)

FIGURE 11



Note: For the industrial sector, actual figures are only available for six months from 1 July to 31 December 2010. The estimate has been changed to reflect this time period. On an annual basis, the estimate was 4.7.



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