

Compliance and Operation of the NSW Greenhouse Gas Reduction Scheme during 2011

Report to Minister

NSW Greenhouse Gas Reduction Scheme
July 2012

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Foreword

GGAS commenced operation in 2003 and was the world's first mandatory carbon trading scheme. However, legislation provides that GGAS would cease to operate once a national scheme with similar objectives is in operation. During 2011 we prepared for the closure of GGAS.

A national carbon emissions trading scheme was first proposed by the Commonwealth Government in 2007. Over the next few years there was much uncertainty about whether a national carbon price would be introduced, with consequential unfavourable impact on the GGAS reported market price. On 24 February 2011 the Commonwealth Government announced that it was introducing a Clean Energy Bill into Parliament. This bill provided for a national pricing mechanism. The bill was passed into law on 8 November 2011. The Carbon Pricing Mechanism had just commenced at the time this report was being prepared.

Uncertainty regarding development of a national scheme has affected the market for GGAS certificates since 2007. Although the prescribed GGAS targets tightened progressively in each year from 2003 to 2007, they have since remained at the 2007 level. Some attempts were made to reduce supply. For example, Category A generation was removed from the Scheme and GGAS was closed to new applications in July 2010. However, by the end of 2011 there was still a substantial excess of certificates to meet the requirements for 2011 compliance.

The surplus of certificates and the approaching closure of GGAS has resulted in low prices for certificates during 2011 and 2012. As a consequence fewer certificates have been created and registered during this period than in previous years. Certificates have no expiry date and represent valid carbon reductions. The voluntary surrender of certificates has increased over the life of GGAS and may continue following the closure of the scheme. It will be interesting to see whether certificates continue to be surrendered voluntarily following the closure of GGAS.

Our focus during 2011 was to prepare for the orderly closure of GGAS, one that would be acceptable to all stakeholders. We have been concerned to ensure that scheme participants continued to meet their compliance obligations for 2011 and the first half of 2012 and that certificate creation during this period represented valid abatement. To meet these requirements we have adopted a risk management approach which emphasised audits of higher risk activities.

The closure of GGAS will be fully documented in a final report to be prepared for the 6 months of operation during 2012 (ie, 1 January to 30 June 2012). We will also report on the challenges and lessons learned during GGAS's nine and a half years of successful operation in a subsequent and separate IPART report to be released in early 2013.

With the national carbon pricing mechanism now in operation, abatement activity and certificate creation under GGAS has ceased from 1 July 2012. It remains for us, and our stakeholders, to ensure that remaining compliance obligations for the remaining 6-month period (ie, from 1 January 2012 to 30 June 2012) are met.

I would like to thank my colleagues on the GGAS Committee, Peter Egger and Eric Groom for wise counsel and participation in decision making during 2011. I would also like to thank the GGAS team for excellent, advice and assistance, and our stakeholders for their co-operation during the year.

James Cox PSM
Chief Executive Office and
Full Tribunal Member

1 Executive summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is both the Compliance Regulator and Scheme Administrator for the NSW Greenhouse Gas Reduction Scheme (GGAS). As part of this dual role, we monitor and report annually to the Minister for Resources and Energy on scheme participants' compliance, and other aspects of the scheme's performance and operation.

This annual report covers the 2011 calendar year, which was the 9th year of operation for the scheme. It was also the final full year of operation, as GGAS closed on 30 June 2012 with the commencement of the national carbon pricing mechanism.

1.1 Overview of GGAS

GGAS was a mandatory greenhouse gas emissions trading scheme, established under Part 9 of the NSW *Electricity Supply Act 1995* (the Act). It commenced in NSW on 1 January 2003 and in the Australian Capital Territory on 1 January 2005. It was legislated to operate until either a national scheme to reduce greenhouse gas emissions was introduced, or until 2021.

The objectives of GGAS were to reduce greenhouse gas emissions associated with the production and use of electricity, and develop and encourage the reduction of emissions from non-electricity-related activities. To achieve this objective, the Act established annual state-wide benchmarks for the reduction of greenhouse gas emissions. It also:

- ▼ Obligated all NSW and ACT electricity retail suppliers and certain other parties to meet individual benchmarks that together met the respective jurisdictional benchmark. These parties were known as Benchmark Participants.
- ▼ Provided for large electricity customers¹ and parties carrying out State Significant Developments² to elect to meet an individual benchmark target. These were known as elective Benchmark Participants.

¹ A large electricity customer is defined as a customer other than a retail supplier, that on its own or together with certain related entities has an electricity load within NSW of over 100GWh per annum at one site or multiple sites owned or occupied by the customers, as long as one of the sites uses over 50GWh per annum.

² State Significant Development has the same meaning as it has in the *Environmental Planning and Assessment Act 1979*. No State Significant Developments elected under the Scheme.

- ▼ Provided for Abatement Certificate Providers to be accredited to carry out greenhouse gas abatement projects that were eligible under one of the GGAS Rules, and to create abatement certificates in respect of those projects. Each certificate represents one tonne of carbon dioxide equivalent emissions. These certificates include:
 - NSW Greenhouse Abatement Certificates (NGACs), which are tradeable certificates, and
 - Large User Abatement Certificates (LUACs), which are non-tradable.³

Benchmark Participants complied with their GGAS obligations primarily by purchasing and surrendering NGACs, or by creating and surrendering LUACs. However, they could also claim credit for a limited number of Renewable Energy Certificates (RECs) they surrendered under the Commonwealth Government's Renewable Energy Target (RET) Scheme in relation to electricity purchases associated with NSW.⁴

GGAS benchmarks were set on a per capita basis. From 2007, the benchmark remained constant at 7.27 tonnes of carbon dioxide equivalent (tCO₂-e) per capita in NSW. The benchmark progressively decreased to this level from 8.65 tCO₂-e per capita in 2003, when GGAS commenced.

In 2007, the Commonwealth Government committed to establishing a national scheme with the objective to reduce greenhouse gas emissions. Since then, the closure of GGAS has been anticipated, with the timing being contingent on the commencement of the national scheme. In light of this, GGAS has been closed to new participants from 31 December 2009.

In February 2011, the Commonwealth Government announced it would introduce a carbon pricing mechanism in mid-2012. In moving towards this introduction, a number of events during 2011 had a direct impact on GGAS. These included:

- ▼ The *Carbon Credits (Carbon Farming Initiative) Act 2011* was passed in Commonwealth Parliament on 23 August 2011. The Act establishes a scheme to allow certain agricultural and land based activities, such as reforestation and reduced emissions from legacy landfill waste, to be accredited to create certificates for the domestic and international carbon market.
- ▼ The introduction of the Clean Energy Legislative Package into Commonwealth Parliament (including 18 bills) to establish a national carbon pricing mechanism on 13 September 2011.
- ▼ Passage of the national carbon pricing mechanism through Parliament on 8 November 2011.

³ LUACs are non-tradeable and can only be created by Abatement Certificate Providers that are elective Benchmark Participants.

⁴ RECs may be counted towards meeting the greenhouse gas benchmark, or to abate a greenhouse gas shortfall, if certain criteria are satisfied pursuant to clauses 73DA and 73DB of the *Electricity Supply (General) Regulation 2001*.

On 5 April 2012, the NSW Minister for Resources and Energy announced the closure of GGAS effective 1 July 2012. This decision was formalised via gazettal of the GGAS closure *Proclamation and Regulation* on 11 May 2012. The ACT Government also announced it would close its GGAS scheme effective 1 July 2012.

1.2 IPART's role as Scheme Administrator and Compliance Regulator

As both the Scheme Administrator and Compliance Regulator of GGAS, IPART's role was to:

- ▼ monitor and report on Benchmark Participants' compliance with their obligations
- ▼ accredit Abatement Certificate Providers to undertake abatement projects that were eligible under the GGAS Rules and create certificates in respect of these projects
- ▼ monitor and report on Abatement Certificate Providers' compliance with the conditions of their accreditation and the GGAS Rules
- ▼ conduct independent audits to ensure the integrity of the scheme
- ▼ track the registration, ownership and surrender of certificates through the GGAS Registry,⁵ and
- ▼ monitor and publish annual reports on the supply of and demand for certificates.

We also hosted the website for GGAS, which can be found at www.greenhousegas.nsw.gov.au.

As allowed under the Act,⁶ IPART delegated the exercise of its functions as Scheme Administrator and Compliance Regulator to a GGAS Committee. For the 2011 calendar year, this committee comprised Mr James Cox as full-time IPART Member, and Mr Peter Egger and Mr Eric Groom as committee members. The GGAS Committee met a total of 13 times in 2011.

1.3 Overview of GGAS's performance and operation in 2011

Overall, the performance and operation of GGAS was good in 2011. Most participants complied fully with their obligations, and most instances of non-compliance were relatively minor in nature. There was a significant decrease in the number of GGAS abatement certificates created, largely due to the uncertainty in the NGAC market because of the anticipated closure of GGAS, as well as oversupply in this market. However, even with this decrease, we estimate that there was around 10 million more certificates available than required to meet the demand in the final 6 months of the schemes operation (1 January to 30 June 2012).

⁵ See <https://www.ggas-registry.nsw.gov.au>

⁶ Section 97HA(6) of the Act allows IPART, with the approval of the Minister, to delegate the exercise of its functions to another person or body.

1.4 Compliance of Benchmark Participants

There were 42 Benchmark Participants in GGAS in 2011, including 11 elective Benchmark Participants. All but 2 of these participants fully met their compliance obligations. Together, they surrendered approximately 15.8 million GGAS abatement certificates, including 14.7 million NGACs and 1.1 million LUACs. They carried forward around 6% of their combined greenhouse shortfall to 2012. They also received credit for approximately 3.6 million RECs in lieu of surrendering certificates to meet their benchmarks. As in 2010, the credit claimed for RECs represented around 18% of the total number of abatement certificates required for compliance.

Since GGAS began in 2003, Benchmark Participants have surrendered a total of approximately 121.4 million abatement certificates, including 114.8 million NGACs and 6.6 million LUACs. This number increases to just over 140 million certificates when credit claimed for RECs is also taken into account.

1.5 Compliance of Abatement Certificate Providers

Abatement Certificate Providers were accredited to undertake and create certificates in respect of 179 abatement activities during all or part of 2011. Among these, there were 38 instances of minor contravention of the conditions of accreditation, and 14 instances of improper creation of certificates. All non-compliance issues were resolved and where relevant, the providers voluntarily agreed to forfeit the improperly created certificates.

During 2011, IPART approved 2 applications for accreditation to undertake abatement activities, both of which were received on or before 31 December 2009 (when GGAS was closed to new applications). We also refused one application (received before 31 December 2009). In addition, we re-accredited 5 existing projects that had changed ownership due to corporate restructure or sale.

We cancelled 28 accreditations during the year. Ten of these projects had been accredited under the DSA Rule⁷ but became ineligible when the energy efficiency component of GGAS was transferred to the NSW Energy Savings Scheme (ESS) on 1 July 2009. The remaining 18 had been accredited under the Generation Rule⁸, and 10 of these were Category A generating systems which became ineligible from 1 July 2010.

At the end of 2011, there were 151 accreditations to create certificates from abatement activity.

⁷ Greenhouse Gas Benchmark (Demand Side Abatement) Rule No.3 of 2003.

⁸ Greenhouse Gas Benchmark (Generation) Rule No.2 of 2003.

1.6 Audit activities

IPART managed 46 independent audits of Abatement Certificate Providers and their activities in 2011, which covered a total of 111 accreditations. These included:

- ▼ certificate creation audits
- ▼ pre-accreditation audits
- ▼ audits of Performance Improvement Testing Regime (PITR) systems.

We also managed 24 independent audits of 24 benchmark statements submitted by Benchmark Participants. This represented all the benchmark statements submitted, except for those where the participant had nil or very low electricity sales. The audits of benchmark statements for the 2011 compliance year were conducted in March 2012 to meet reporting timeframes for Benchmark Participants.

1.7 Registration, ownership and surrender of certificates

During 2011, the number of certificates created from accredited abatement activities decreased compared to 2010. This was largely due to considerable uncertainty in the NGAC market as well as oversupply in this market. As at 30 June 2012, a total of 12.8 million certificates were recorded in the GGAS Registry for abatement activities during 2011, compared to 20.2 million in 2010. Of the 2011 certificates, 85% were created from generation projects.

The number of certificates available for transfer and/or surrender also decreased in line with certificate creation. As at 30 June 2012, a balance of 16.6 million unsurrendered certificates (of 2003-2011 vintage) was available.

The number of certificates that were voluntarily surrendered⁹ increased significantly in 2011. A total of 628,688 certificates were surrendered in this way, which was 78% more than in 2010.

1.8 Projected supply of and demand for certificates in coming years

The actual supply of certificates in 2011 (12.8 million) was much lower than we projected in last year's annual report (approximately 23 million). There were several reasons for this. The first was the steady decline in the spot price for NGACs during the year in parallel with the announcement and subsequent passage of legislation for a national carbon price. The second was our decision – in view of the stock of unused certificates and imminent closure of the scheme – to proactively offer exemptions from mandatory audits where Abatement Certificate Providers elected not to create 2011 certificates.

⁹ Voluntary surrenders are a means whereby individuals or companies can choose to offset the emissions from their operations by purchasing and then surrendering certificates.

Despite this significant reduction in supply, there was still a surplus of certificates from previous years. At 30 June 2012, around 17 million unsurrendered certificates were available to meet demand of approximately 7 million certificates for the final GGAS compliance period of 1 January to 30 June 2012. With Abatement Certificate Providers being able to continue registering 2012 vintage certificates up to 31 August 2012 (for abatement in the period 1 January 2012 to 30 June 2012)¹⁰, it is expected there will be approximately 12.5 million surplus certificates available for voluntary surrender after the scheme closes.

1.9 What does the rest of this report cover?

The rest of this report discusses the performance and operation of GGAS during 2011 in detail:

- ▼ Chapters 2 and 3 focus on the performance of Benchmark Participants and Abatement Certificate Providers
- ▼ Chapter 4 discusses our auditing activities
- ▼ Chapter 5 provides key statistics on the registration, surrender and transfer of certificates recorded in the Registry, and
- ▼ Chapter 6 provides possible scenarios for demand and supply of certificates at GGAS closure on 1 July 2012.

The appendices provide an overview of GGAS and its key elements, as well as detailed information on Abatement Certificate Providers and certificates registered since 2003, and a glossary of the terms used in this report.

For a comprehensive overview of GGAS, and the functions of the Scheme Administrator and Compliance Regulator, and a description of the calculation methodologies and other legislative provisions, refer to earlier Compliance and Operation reports or the GGAS website.¹¹

¹⁰ The final date to register certificates for abatement activity during the period 1 January to 30 June 2012 is 31 August 2012. After this date no further certificates can be created in the GGAS Registry.

¹¹ www.greenhousegas.nsw.gov.au

2 NSW Benchmark Participants' compliance performance

All Benchmark Participants are required to lodge a calendar year Annual Greenhouse Gas Benchmark Statement (benchmark statement) with IPART by no later than 18 March of the following year. In most cases, we also require them to provide an independent audit report with this statement.¹²

The benchmark statement sets out the Benchmark Participant's individual greenhouse gas benchmark (ie, abatement obligation) and the number of abatement certificates it has surrendered to meet this obligation. If a participant surrenders insufficient certificates to meet its benchmark, the difference is known as a greenhouse shortfall. Benchmark Participants can choose to carry forward to the following year a greenhouse shortfall of up to 10% of their individual benchmark without having to pay a penalty. However, any shortfall carried forward must be met the following year. If they choose not to carry forward, or have a greenhouse shortfall in excess of 10% of their benchmark, they incur a financial penalty. For the 2011 compliance year, this penalty was \$15.50 per tonne of carbon dioxide equivalent.¹³

During 2011, there were 42 Benchmark Participants in NSW. These included 28 licensed electricity retailers, 2 market customers and 1 generator,¹⁴ plus 11 large users of electricity that had voluntarily elected into GGAS. The section below summarises these participants' compliance performance. The subsequent sections provide detailed information on this performance, including the number of abatement certificates surrendered, the types of abatement for which these certificates were created, the greenhouse shortfalls carried forward and the greenhouse gas penalties paid.

¹² The exceptions are when Benchmark Participants submit a nil return or have very low electricity purchases for the year.

¹³ The calculation of the penalty and CPI adjustment is made pursuant to section 97CA of the Act and section 73C of the Regulation. The penalty is adjusted annually in line with CPI movements. However, during periods of low inflation the penalty is not adjusted due to a rounding mechanism in the formula. For the 2011 compliance year, the penalty rate of \$15.50 per tCO₂-e increased from the 2010 level of \$14.00.

¹⁴ Delta Electricity is a prescribed generator under s73(B) of the *Electricity Supply (General) Regulation 2001*. However, Delta Electricity is also a licensed NSW electricity retailer. To avoid double counting, Delta Electricity is counted only once as a Benchmark Participant in the total figure.

2.1 Summary of Benchmark Participants' compliance performance in 2011

Of the 42 Benchmark Participants, 40 fully met their individual greenhouse gas benchmark (including any remaining obligations for the 2010 compliance year). Of those 40:

- ▼ 26 surrendered sufficient certificates to meet their individual greenhouse gas benchmark
- ▼ 9 did not directly purchase or sell electricity in NSW and so were not required to surrender abatement certificates, and
- ▼ 5 surrendered certificates to partly meet their individual benchmark and chose to carry forward their allowable greenhouse shortfall to 2012.

Only 2 Benchmark Participants failed to meet their obligations by failing to submit a benchmark statement and failing to surrender any abatement certificates.

Table 2.1 lists all participants, grouped according to their compliance performance.

Table 2.1 NSW Benchmark Participant by compliance performance in 2011

Compliance performance	Benchmark Participant	Type of Participant
Surrendered sufficient certificates to meet 2011 greenhouse benchmark	Aurora Energy	Mandatory
	Ausgrid	Mandatory
	Australian Power & Gas (NSW)	Mandatory
	Amcor Packaging Australia	Elective
	BlueScope Steel (AIS)	Elective
	Boral Limited	Elective
	Dodo Power and Gas	Mandatory
	Endeavour Energy	Mandatory
	ERM Power Retail	Mandatory
	Essential Energy	Mandatory
	Honan Holdings	Elective
	Hydro Aluminium Kurri Kurri	Elective
	Infigen Energy Markets	Mandatory
	Lumo Energy	Mandatory
	Momentum Energy Limited	Mandatory
	Norske Skog Paper Mills (Aust)	Elective
	OneSteel Manufacturing	Elective
	Orica Australia	Elective
	Origin Energy Electricity	Mandatory
	Red Energy	Mandatory
	Tarong Energy Corporation	Mandatory
	Tomago Aluminium ^a	Mandatory
	TRUenergy	Mandatory
TRUenergy Yallourn Pty Ltd	Mandatory	
Visy Industries Holdings	Elective	
Xstrata Coal NSW	Elective	

Compliance performance	Benchmark Participant	Type of Participant
Did not directly purchase or sell electricity in NSW and therefore were not required to surrender certificates	ActewAGL Retail ^b	Mandatory
	Delta Electricity	Mandatory
	Diamond Energy Pty Ltd	Mandatory
	Eraring Energy ^a	Mandatory
	GridX Power	Mandatory
	Metered Energy	Mandatory
	Simply Energy	Mandatory
	Stanwell Corporation	Mandatory
Surrendered certificates to meet part of their greenhouse benchmark and chose to carry forward their greenhouse shortfall to 2012	WINenergy	Mandatory
	AGL Sales (Queensland Electricity)	Mandatory
	AGL Sales	Mandatory
	Centennial Coal	Elective
	Macquarie Generation	Mandatory
Failed to meet their obligation	Powerdirect Pty Ltd	Mandatory
	Independent Electricity Retail Solutions	Mandatory
	Sanctuary Energy Pty Ltd	Mandatory

a Registered with Australian Energy Market Operator (AEMO) as a market customer, that is, an electricity customer taking supply directly from the national electricity grid.

b This participant did not purchase electricity directly from the national electricity grid. Its electricity purchases were included in the return of the Benchmark Participants who purchased electricity from the national electricity grid on its behalf.

Note: In March 2011, Origin Energy purchased Country Energy's electricity and gas retailing business as well as Integral Energy's electricity retailing business; and TRUenergy acquired EnergyAustralia's retail customer base. Accordingly, 2011 benchmark statements for sales attributed to Country Energy, Integral Energy and EnergyAustralia were submitted by the renamed distribution businesses, Essential Energy, Endeavour Energy and Ausgrid, respectively.

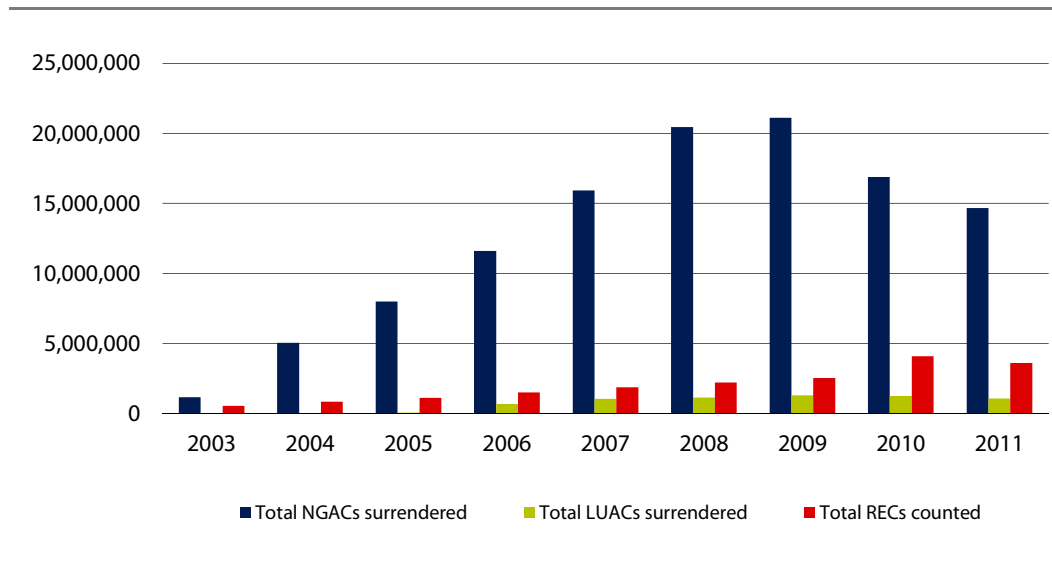
2.2 Number of greenhouse gas abatement certificates surrendered and Renewable Energy Certificates counted

Together, Benchmark Participants had a total compliance obligation of 19.4 million certificates for 2011, which was around 14.5% less than for 2010. To meet this obligation, they:

- ▼ surrendered approximately 14.7 million NGACs (around 13% less than in 2010)
- ▼ surrendered approximately 1.1 million LUACs (around 14% less than in 2010)
- ▼ claimed credit for 3.6 million RECs (around 12% less than in 2010).¹⁵

As Figure 2.1 shows, NGACs comprised the bulk of the certificates surrendered or counted in 2011, as they have done in previous years. LUACs comprised only 5% of the total certificates surrendered or counted. This was lower than in 2010, reflecting a general economic downturn in industries with large individual energy users, such as steelmaking and aluminium production.

¹⁵ Total abatement certificates required for compliance is a total of NGACs/LUACs required to meet obligations plus RECs counted toward compliance (expressed as an equivalent number of NGACs).

Figure 2.1 Number of abatement certificates surrendered and Renewable Energy Certificates counted

Of the 12 Benchmark Participants that were large electricity users (11 elective and 1 mandatory participant), 8 surrendered LUACs to meet their obligations in 2011. Four of these – Boral, Hydro Aluminium Kurri Kurri, Orica and Xstrata Coal – met most of their obligation by surrendering LUACs, and claimed credit for RECs to meet the remainder. The other 4 – Amcor Packaging Australia, BlueScope Steel, Norske Skog Paper Mills and Tomago Aluminium – surrendered a combination of LUACs and NGACs and also claimed credit for RECs. The remaining 4 large users – Centennial Coal Australia, Honan Holdings, OneSteel Manufacturing and Visy Industries – met their compliance obligation by surrendering only NGACs and claiming credit for RECs. (Table 2.2 shows LUACs surrendered as a proportion of total abatement in 2011 and previous years.)

In the period from 2003 (when GGAS began) to the end of 2011, a total of almost 115 million NGACs were surrendered. When LUACs are included, this number increases to over 121 million certificates. When equivalent RECs are also taken into account, it increases to over 140 million certificates.

Table 2.3 provides a detailed breakdown of the abatement certificates offered for surrender and accepted in each year since 2003, compared to the total number of certificates required to completely meet the GGAS abatement obligations (including any greenhouse shortfalls that were carried forward to the next year). Note that this table has been prepared by adding penalties as an equivalent number of NGACs. Based on this methodology, the 2011 greenhouse abatement obligation totals 19,389,375 abatement certificates. Table 2.4 presents this information in percentage terms.

Table 2.2 Percentage of LUACs surrendered in 2009, 2010 and 2011 by individual large users^a

Large Users	LUACs surrendered (as a % of total abatement)		
	2009	2010	2011
Amtcor Packaging (Australia)	66%	63%	90%
BlueScope Steel	22%	21%	24%
Boral Limited	100%	83%	80%
Centennial Coal (Aust.)	0%	0%	0%
Honan Holdings	n/a	n/a	0%
Hydro Aluminium Kurri Kurri	86%	84%	78%
Norske Skog Paper Mills (Australia)	11%	11%	15%
Onesteel Manufacturing	0%	0%	0%
Orica Australia	100%	81%	79%
Tomago Aluminium ^b	59%	50%	58%
Visy Industries Holdings	0%	0%	0%
Xstrata Coal NSW	100%	81%	79%
Total	5%	6%	5%

a Individual total abatement for the year is calculated by the number of certificates required to attain a zero greenhouse shortfall including any greenhouse shortfall carried forward from the previous year.

b Mandatory Benchmark Participant.

Table 2.3 NSW Total Abatement and Renewable Energy Certificates offered for surrender and accepted since GGAS began

	Compliance year									TOTAL
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Total NGACs surrendered	1,166,866	5,037,847	7,982,204	11,592,583	15,922,727	20,456,449	21,104,475	16,876,212	14,694,557	114,833,920
Total LUACs surrendered	0	0	64,401	686,560	1,040,462	1,141,096	1,295,496	1,258,099	1,082,664	6,568,778
RECs counted	544,518	841,194	1,117,907	1,512,006	1,878,514	2,205,601	2,535,679	4,083,772	3,603,144	18,322,335
NGAC equivalent (RECa co-efficient)	488,432	762,122	1,020,649	1,404,653	1,767,682	2,104,143	2,452,002	3,973,510	3,513,065	17,486,258
Actual Total Certificates surrendered to meet compliance obligations for the year	1,655,298	5,799,969	9,067,254	13,683,796	18,730,871	23,701,687	24,851,973	22,107,821	19,290,286	138,888,955
Total Certificates required to meet compliance obligations for the year ^b	1,699,941	5,897,234	9,150,547	13,802,181	18,387,285	24,148,452	24,852,164	22,721,512	19,389,375	140,048,691
Total shortfalls carried forward to next compliance year	44,643	141,908	225,201	343,586	0	446,765	446,956	1,055,784	1,149,274	3,854,117

^a RECs are not directly equivalent to NGACs. To calculate the NGAC equivalent the number of RECs is multiplied by the pool coefficient for that year (for 2011 that number is 0.975 (tCO₂-e/MWh)).

^b Total Certificates required to meet compliance obligations for the year is a total of NGACs and LUACs required to meet obligations plus RECs counted toward compliance expressed as NGAC equivalents plus shortfalls carried forward to the following year minus the shortfall carried forward from the previous year. Total = NGACs + LUACs + RECs + shortfall current year – shortfall previous year.

Table 2.4 Components of abatement since GGAS began (expressed as total surrenders plus carry forward to following year)

	Compliance Year									TOTAL
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
NGACs surrendered	68.6%	84.8%	85.9%	82.6%	85.0%	84.7%	83.4%	72.9%	71.9%	80.4%
LUACs surrendered	0.0%	0.0%	0.7%	4.9%	5.6%	4.7%	5.1%	5.4%	5.3%	4.6%
RECs taken into account (NGAC equivalent)	28.7%	12.8%	11.0%	10.0%	9.4%	8.7%	9.7%	17.2%	17.2%	12.3%
Greenhouse shortfall ^a	2.6%	2.4%	2.4%	2.4%	0.0%	1.9%	1.8%	4.6%	5.6%	2.7%
Total abatement obligations	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^a In 2007, no shortfall was allowed to be carried forward to ensure that NSW met its target in line with the Kyoto protocol.

Note: Some of the data in this table differs slightly from data published in tables in previous *Compliance and Operation of the NSW Greenhouse Gas Reduction Scheme* reports. Previous components have generally been expressed as a percentage of total abatement which includes any obligation carried forward from the previous year. These figures are now expressed as a percentage of surrenders plus obligations elected to be carried forwards to the following year. Total abatement obligations = NGACs surrendered + LUACs surrendered + RECs accounted + shortfall obligations.

2.3 Types of abatement certificates surrendered

In 2011, the NGACs surrendered were created from abatement projects accredited under the Generation Rule, the DSA Rule and the CS Rule,¹⁶ while all the LUACs surrendered were created under the LUAC Rule.¹⁷ As in 2009 and 2010, the Generation Rule was the largest source of certificates surrendered. The number of DSA Rule certificates surrendered decreased by approximately 74% compared to 2010, while CS Rule certificates surrendered increased by approximately 223%. This is in response to the national Carbon Farming Initiative.

Table 2.5 provides a detailed breakdown of types of certificates offered for surrender and accepted for each year of GGAS operation.

Table 2.5 Types of certificates (NGACs/LUACs) offered for surrender and accepted

	Generation Rule	DSA Rule	CS Rule	Total NGACs	LUAC Rule	Total
2003	1,114,174 95.5%	52,692 4.5%	0 0.0%	1,166,866 100.0%	0 0.0%	1,166,866 100.0%
2004	4,432,113 88.0%	605,734 12.0%	0 0.0%	5,037,847 100.0%	0 0.0%	5,037,847 100.0%
2005	7,599,850 94.4%	382,354 4.8%	0 0.0%	7,982,204 99.2%	64,401 0.8%	8,046,605 100.0%
2006	9,291,261 75.7%	2,251,272 18.3%	50,050 0.4%	11,592,583 94.4%	686,560 5.6%	12,279,143 100.0%
2007	9,739,237 57.4%	6,158,491 36.3%	24,999 0.1%	15,922,727 93.9%	1,040,462 6.1%	16,963,189 100.0%
2008	10,866,268 50.3%	9,407,377 43.6%	182,803 0.9%	20,456,448 94.8%	1,141,096 5.2%	21,597,544 100.0%
2009	12,860,969 57.4%	7,536,584 33.6%	706,922 3.2%	21,104,475 94.2%	1,295,496 5.8%	22,399,971 100%
2010	15,276,095 84.2%	1,031,111 5.7%	569,006 3.1%	16,876,212 93.1%	1,258,099 6.9%	18,134,311 100%
2011	13,192,185 83.4%	272,432 1.7%	1,270,874 8.0%	14,735,491 93.2%	1,082,664 6.8%	15,818,155 100.0%

Note: Percentage totals may not add due to rounding.

¹⁶ Greenhouse Gas Benchmark Rule (Carbon Sequestration) No. 5 of 2003.

¹⁷ Greenhouse Gas Benchmark Rule (Large User Abatement Certificates) No. 4 of 2003.

2.4 Greenhouse shortfalls carried forward

Five Benchmark Participants chose to carry forward greenhouse shortfalls to 2012 (Table 2.6). Together, these greenhouse shortfalls were equivalent to 1,149,274 tCO₂-e and represent 5.9% of the total annual compliance obligation in 2011.

Table 2.6 Benchmark Participants carrying forward a greenhouse shortfall to 2012

Benchmark Participant	Greenhouse shortfall (as % of individual benchmark)
AGL Sales (Queensland Electricity) Pty Ltd	10.0%
AGL Sales Pty Ltd	10.0%
Centennial Coal	0.008%
Macquarie Generation	10.0%
Powerdirect Pty Ltd	10.0%

2.5 Greenhouse Gas penalties

Two Benchmark Participants failed to surrender certificates to meet their greenhouse gas benchmarks and were assessed as owing a penalty in respect of their resultant greenhouse shortfalls. These were Independent Electricity Retail Solutions (IERS) and Sanctuary Energy.

IERS' liable shortfall was 6 tCO₂-e, for which the penalty was \$93. Sanctuary Energy's liable shortfall was 5,593 tCO₂-e, for which the penalty was \$86,692. Both penalties were based on the 2011 penalty rate of \$15.50 per certificate. Together, these participants' liable shortfalls represented 0.03% of the total certificate obligation for Benchmark Participants. As at 30 June 2012, these penalties were still outstanding.

Table 2.7 shows the total penalties incurred by Benchmark Participants due to greenhouse shortfalls in dollar and tCO₂-e terms for each year since 2003.

Table 2.7 Penalties incurred due to greenhouse shortfalls

Year	Dollar amount	tCO ₂ -e
2003	\$0	0
2004	\$21	2
2005	\$0	0
2006	\$0	0
2007	\$204	17
2008	\$1,152	96
2009	\$15,287	1,223
2010	\$68,082	4,863
2011	\$86,785	5,599

Note: Complete payment has not been received from Sanctuary Energy and IERS for 2010 or 2011 penalties.

3 Abatement Certificate Providers' compliance performance

Abatement Certificate Providers are voluntary participants in GGAS. They apply for accreditation to undertake eligible abatement projects under the GGAS Rules. The GGAS Rules set out additional eligibility criteria and the calculation methods used to determine the number of certificates (NGACs or LUACs) that can be created. Each certificate represents the abatement of one tonne of carbon dioxide equivalent emissions.

In anticipation of the introduction of a national carbon price, GGAS has been closed to new applications for accreditation since the end of 2009. (The only exception has been applications for activities that were accredited before the end of 2009 but have since changed ownership or corporate structure). As a consequence of this, IPART's main workload in 2011 was to monitor the ongoing compliance of Abatement Certificate Providers with the GGAS Rules and their specific conditions of accreditation.

The section below summarises Abatement Certificate Providers' compliance performance during 2011 and the key accreditation statistics for the year. The subsequent sections discuss the compliance outcomes and the accreditations we approved, amended and cancelled in more detail. Appendix B provides historical data on Abatement Certificate Providers.

3.1 Summary of Abatement Certificate Providers' compliance performance and key accreditation statistics

In 2011, Abatement Certificate Providers' overall level of compliance with the Act, Regulations, Rules and accreditation conditions remained satisfactory. While there were slightly more instances of contravention of compliance obligations than in 2010, most were relatively minor in nature.

The GGAS Committee sitting as Scheme Administrator met 13 times during 2011. It approved a total of 7 accreditation applications and refused 1 application. It also made 24 amendments to accreditations, and cancelled 28 accreditations. Of the cancellations, 10 had been accredited under the DSA Rule¹⁸ but became ineligible when the energy efficiency component of GGAS was transferred to the NSW ESS.

¹⁸ *Greenhouse Gas Benchmark (Demand Side Abatement) Rule No.3 of 2003.*

The remainder had been accredited under the Generation Rule¹⁹, and 10 of these were Category A generating systems which became ineligible from 1 July 2010.

3.2 Compliance outcomes

The Act identifies the following ways in which Abatement Certificate Providers may contravene their compliance obligations under GGAS:

- ▼ contravening the conditions of accreditation (section 97DD)
- ▼ improper creation of certificates (section 97J)
- ▼ obstructing the Scheme Administrator (section 97JA)
- ▼ supplying false or misleading information (section 97JB).

Among the 179 accreditations that were active for all or part of the year, there were 52 instances of contravention. This is 13 more than in 2010; however, all, with the exception of one, were relatively minor in nature. In particular, 32 of the instances involved failure to submit necessary documents by the required deadline, and 6 involved the failure to engage an auditor by the required deadline. The remaining 14 instances involved the improper creation of certificates.

The contraventions were discovered either through voluntary declaration by the Abatement Certificate Provider, or by our administration processes or the compliance audit process. The sections below provide more detail on the contraventions and how they were addressed.

3.2.1 Failure to submit documents by required deadline

The 32 instances of failure to submit documents by the required deadline involved only 7 Abatement Certificate Providers, who failed to submit their Annual Report Statements. Five of these providers (representing 28 accreditations) promptly completed their outstanding compliance obligations by submitting their Annual Report Statement once we advised them of the contravention. The other 2 providers (representing 4 accreditations) requested cancellation of their accreditation.

3.2.2 Failure to engage an auditor by required deadline

The 6 instances of failure to engage an auditor by the required deadline involved 5 Abatement Certificate Providers. All but one of these promptly completed their outstanding compliance obligations by engaging an auditor once we advised them of the contravention. The remaining Abatement Certificate Provider asked us to waive the audit obligation as no certificates had been created.

¹⁹ *Greenhouse Gas Benchmark (Generation) Rule No.2 of 2003.*

3.2.3 Improper creation of certificates

All of the 14 instances of improper creation of certificates involved the over-creation of certificates. These instances involved 9 Abatement Certificate Providers. Table 3.1 lists the different causes of these instances. It indicates that most of the instances of over-creation were minor in nature, resulting from some form of data input error or lack of attention to detail on the part of the Abatement Certificate Provider. However, there was one relatively major instance of over-creation resulting from an administration error in Forests NSW's carbon sequestration model.

Table 3.1 Contraventions involving improper of certificates in 2011

Cause of improper creation	Number of accreditations	Number of certificates
Administrative errors in Carbon Sequestration model	1	22,303
Use of incorrect data (eg, default factor, other related data inputs)	7	5,377
Incorrect application of calculation method	2	5,330
Calculation error (rounding or calibration error)	1	3,454
Use of unapproved data	1	235
Transcription errors	2	137
2011 Totals	14	36,836
2010 Totals	15	71,229

The number of instances of over-creation of certificates in 2011 was similar to 2010, but the number of certificates over-created as a result of these instances was significantly lower (36,836 compared to 71,229 in 2010). After being notified, all of the companies involved agreed to forfeit the over-created certificates. This ensured that the number of certificates created and reported represents valid abatement.

The largest proportion of over-created certificates resulted from 2 calculation errors within Forests NSW's carbon sequestration accreditation. The first error involved the use of incorrect forest data on which certificate calculations were based. The second was a transcription error. These errors were identified by Forests NSW and all over-created certificates were voluntarily forfeited.

3.3 Accreditations approved in 2011

We approved a total of 7 accreditations in 2011. Of these, 2 were applications received on or before 31 December 2009 (after which GGAS was closed to new applications). The other 5 were previously accredited projects that had changed ownership as a result of corporate restructure or sale. We also refused one new application for accreditation (received before 31 December 2009) on the grounds that the application had not been duly made and the information required to complete assessment was not provided. At the end of 2011, there were no applications for accreditation under review.

Table 3.2 sets out the number of accreditations approved in each year of GGAS operation, categorised by Rule. It shows that all 7 of these accreditations were under the Generation Rule.

Table 3.2 Number of accreditations approved each year by Rule

	Generation Rule	DSA Rule	LUAC Rule	CS Rule
Accredited in 2003	14	3	1	0
Accredited in 2004	67	48	0	1
Accredited in 2005	25	43	1	3
Accredited in 2006	9	17	2	1
Accredited in 2007	24	19	4	1
Accredited in 2008	17	10	1	1
Accredited in 2009	12	1	1	0
Accredited in 2010 ^a	7	8	0	0
Accredited in 2011^{a,b}	7	0	0	0

^a Accreditations in respect of applications received on or before 31 December 2009.

^b Accreditations in respect of existing projects where corporate restructure or sale of owner has occurred.

Table 3.3 shows the type of projects accredited in 2011. It indicates that all 7 of these were interstate power stations.

Table 3.3 Accreditations approved in 2011

Rule and type	Jurisdiction	Accreditations approved
Generation Rule		
Category C – Coal	Queensland	1
Category D – Coal	Queensland	1
Category D – Coal Seam Methane	Queensland	2
Category D – Landfill Gas	Victoria	2
Category D – Natural Gas	Queensland	1

Appendix A defines the different categories of the Generation Rule, while Appendix B provides a detailed breakdown of accreditations approved each year since 2003.

3.4 Accreditations amended in 2011

During 2011, we approved 24 amendments to existing accreditations. Of these, 16 were to Generation Rule accreditations, 2 were to DSA Rule accreditations, 2 were to LUAC Rule accreditations, and 4 were to CS Rule accreditations.

The amendments involved:

- ▼ changes to the nominated number of certificates that can be created
- ▼ the addition or removal of Special Accreditation Conditions
- ▼ changes to audit and reporting requirements
- ▼ the commissioning of an accredited future project (Origin Energy's 644MW Darling Downs Power Station)
- ▼ changes to the application of equations and/or methods used
- ▼ acceptance or revision of PITR documentation for coal-fired plant
- ▼ for CS Rule accreditations, the addition or removal of forests from sequestration pools.

3.5 Accreditations cancelled in 2011

Accreditations may be cancelled for several reasons, including:

- ▼ a corporate restructure or sale²⁰
- ▼ the accredited activity is completed and has finished reducing greenhouse gas emissions
- ▼ an accreditation ceases to be eligible, and
- ▼ a request for cancellation from the Abatement Certificate Provider.

During 2011, we cancelled 28 accreditations (Table 3.4). Ten of these were accredited under the DSA Rule.²¹ They included 4 projects that had transitioned to the ESS, and 8 that were ineligible for transition to the ESS and no longer eligible under the DSA Rule. The remaining 18 were accredited under the Generation Rule, including 10 Category A generating systems (which became ineligible from 1 July 2010) and 5 accreditations that had changed ownership as a result of corporate restructure or sale.

²⁰ A cancellation in this regard often, but not necessarily, results in a new accreditation for the same project under the new owner or generator's name.

²¹ *Greenhouse Gas Benchmark (Demand Side Abatement) Rule No.3 of 2003.*

Table 3.4 Accreditations cancelled in 2011 by Rule

Rule and type	Accreditations cancelled
Generation Rule^a	
Category A – Hydro	4
Category A – Landfill Gas	6
Category B – Coal	1
Category C – Coal	1
Category D – Coal	1
Category D – Landfill Gas	2
Category D – Natural Gas	3
DSA Rule^b	
Default Abatement Factors Method	5
Generation Emissions Method	2
Metered Baseline Method – normalised by NABERS scheme	2
Project Impact Assessment Method	1

^a Five Generation Rule accreditations were cancelled due to a change of ownership and subsequently re-accredited under the name of the new owner.

^b One accreditation was cancelled due to deregistration of the accredited company.

At the end of 2011, 151 accreditations remained. These include:

- ▼ 120 accreditations under the Generation Rule. A significant portion of these were Category D Landfill Gas projects (involving the destruction of methane as the prime activity) or Natural Gas projects.
- ▼ 15 accreditations under the DSA Rule. These projects utilised the Generation Emissions Method (on-site generation), and most involved activities in the industrial sector.
- ▼ 9 accreditations under the LUAC Rule.
- ▼ 7 accreditations under the CS Rule (one of which was pending cancellation during 2011 at the request of the Abatement Certificate Provider²²).

²² This accreditation was cancelled in April 2012.

4 | Audit activity

Legislation provides us with wide auditing powers in exercising the functions of Scheme Administrator and Compliance Regulator. The audit and compliance framework helps provide assurance that GGAS is operating in accordance with the relevant legislation, that information provided by GGAS participants is reliable, and that certificate creation is backed by real greenhouse gas reductions.

For audits of Abatement Certificate Providers, we generally use a risk-based approach to decide on the audit regime for a particular company. We take account of a range of factors, including the company's size and previous compliance history, the complexity of the project, the calculation methodology to be used, and the number of certificates to be created.

For audits of Benchmark Participants, there are fewer variables within the risk assessment. We have adopted a stringent approach, in that we require all benchmark statements to be audited, with exemptions given on a case-by-case basis.

The *Electricity Supply (General) Regulation 2001* (the Regulation) states that GGAS participants bear the cost of audits, even in the circumstance where we, as Scheme Administrator, select and engage the auditor.

The section below provides a summary of audit activity in 2011. The subsequent sections describe the key features of the audit and compliance framework – including the Audit and Technical Services Panel, the selection and management of audits, and the compliance and audit monitoring strategy for Abatement Certificate Providers.

4.1 Summary of audit activity

During 2011, we managed 70 audits, including audits of benchmark statements, audits of accreditations initiated by us as Scheme Administrator (eg, pre-accreditation audits or spot audits), and audits of accreditations initiated by Abatement Certificate Providers to comply with their conditions of accreditation. These audits included 24 benchmark statements and 111 accreditations (Table 4.1).

Table 4.1 Number of audits undertaken in 2010 and 2011

	2010	2011
Benchmark statement audits		
Number of audits	31 ^a	24 ^b
Number of benchmark statements covered	36 ^a	24 ^b
Accreditation audits initiated by the Scheme Administrator^c		
Number of audits	5	4
Number of accreditations covered	8	4
Accreditation audits initiated by Abatement Certificate Providers^c		
Number of audits	55	42
Number of accreditations covered	112	107
Total number of audits	91	70
Total benchmark statements or accreditations covered	156	135

^a Conducted in the first quarter 2011.

^b Conducted in the first quarter of 2012.

^c Conducted during the calendar year.

As Scheme Administrator, we initiated 4 audits comprising two pre-accreditation audits, one Pitr review audit and one NGAC creation audit. The total cost of these audits was approximately \$54,000.

4.2 Audit and Technical Services Panel

The Audit and Technical Services Panel (the panel) was established to undertake audit activities for GGAS participants, the Compliance Regulator and the Scheme Administrator, and to provide technical services to the GGAS Committee as required. At the end of 2011, the panel included 26 firms in 2 categories (Table 4.2):

- ▼ Audit and Technical Service providers, which have been approved by the GGAS Committee to perform audits under GGAS, and can also provide technical services.
- ▼ Technical Services providers, which can provide technical services only.

In 2012, the panel was closed to new application to join the panel. Previously, firms could apply to become a member of the panel at any time, and their applications assessed against specific selection criteria.²³ Once appointed, they can be engaged to provide specific services and undertake these services in accordance with an Audit and Technical Services Panel Agreement (the panel agreement).

During 2011, one new firm was added to the Panel. A list of all members of the Panel is available from the GGAS website.²⁴

²³ A Panel Application Form and a Guide to Applying are available from the Scheme website at www.greenhousegas.nsw.gov.au/audit/joining.asp

²⁴ www.greenhousegas.nsw.gov.au/audit/members.asp

Table 4.2 Membership of the Audit and Technical Services Panel as at December 2011

	No. of firms
Audit and Technical Services providers	17
Technical Services providers	9
Total	26

4.3 Selection and management of auditors

Depending on the type of audit being conducted, the Scheme Administrator, Abatement Certificate Provider or Benchmark Participant may be responsible for selecting and engaging the auditor.

As Scheme Administrator, we normally select and engage the auditor for audits associated with applications for accreditation (pre-accreditation audit), where a significant change to an accreditation has been requested by an Abatement Certificate Provider, or where a non-compliance event has resulted in a tightening of audit requirements (eg, where an audit is required before NGACs can be registered).

In these cases, we select the auditor on a competitive basis, by seeking a detailed scope of works and fixed quotes from up to 3 panel members. We then engage the selected auditor to perform the required audit, and the Abatement Certificate Provider or applicant is required to pay the agreed audit fee prior to the commencement of the audit.

More generally, the participant selects and engages the auditor for audits of certificate creation and annual greenhouse gas benchmark statements. However, in these cases, the engagement is subject to our approval of the detailed scope of works for the audit and the selected auditor (as Scheme Administrator or Compliance Regulator).

All audits are undertaken to assure that GGAS is operating in accordance with the relevant legislation and that information provided by GGAS participants is verified.

The panel agreement also establishes a unique arrangement for the conduct of audits whereby, regardless of who engages the auditor, the auditor's primary duty of care is always to conduct the audit on our behalf as the Scheme Administrator or the Compliance Regulator. This is done via a deed poll (signed by the scheme participant) which identifies the auditor and scope of services, and which nominates IPART as the primary client for the audit. In comparison, under usual contractual arrangements, the duty of care is owed to the engaging party.

4.4 Compliance and performance monitoring strategy

The *Compliance and Performance Monitoring Strategy for Abatement Certificate Providers*²⁵ has been developed to:

- ▼ provide transparency in the administration of GGAS
- ▼ help Abatement Certificate Providers understand their obligations under GGAS
- ▼ minimise the incidence of invalid creation of abatement certificates
- ▼ provide cost-effective compliance options
- ▼ encourage a culture of compliance among participants
- ▼ provide for credible enforcement options in the event of non-compliance.

The strategy sets out how we monitor Abatement Certificate Providers' performance through a combination of annual reports and audit requirements tailored to the individual provider's circumstances. It also sets out the factors we consider when determining whether a pre-accreditation audit of an applicant is required. The strategy is designed to be risk-based and flexible so that, over time, we are able to recognise good compliance performance and, if appropriate, relax an Abatement Certificate Provider's compliance monitoring regime.

Following the announcement that GGAS will close effective 1 July 2012, we released a *Scheme Administrator Notice*²⁶ regarding ongoing audit compliance obligations in 2012. In particular, Abatement Certificate Providers were given a number of options depending on individual accreditation conditions and certificate creation. Abatement Certificate Providers could choose to:

- ▼ include 2012 vintage certificates in forthcoming audits of 2011 vintage certificates
- ▼ forego creation of 2011 and 2012 vintage certificates and seek exemption from audit obligations
- ▼ voluntarily forfeit all 2011 and 2012 vintage certificates and seek exemption from audit obligations.

²⁵ www.greenhousegas.nsw.gov.au/documents/syn70.asp

²⁶ www.greenhousegas.nsw.gov.au/Documents/Notice_5Apr12.pdf

5 GGAS Registry – registration, ownership and surrender of certificates

Under the Regulations, IPART (as Scheme Administrator) is required to maintain a register of Abatement Certificate Providers and certificate registration and ownership. When the scheme commenced in 2003, we engaged Logica to design a registry that would enable us to fulfil this function. We also appointed Logica to operate the Registry. Since then, Logica has continued to work with us, and has managed numerous upgrades to the Registry. The most recent upgrade was performed in 2009 to incorporate the ESS, and the Registry is now known as the GGAS & ESS Registry.

The sections below provide an overview of the Registry, and data on the trends in certificate registration, transfer and surrender since GGAS commenced. Appendix B provides a detailed breakdown of certificate registration by individual project. Note that data are current as at 30 June 2012 and include all vintages of certificates, up to and including the 2011 vintage²⁷. The totals for certificate registration in prior years may be less than previously reported because some certificates registered have subsequently been forfeited.

5.1 What is the Registry?

The Registry is an online database, which is an important tool for administering GGAS and a valuable source of information for participants. It can be found at <https://www.ggas-registry.nsw.gov.au>, and can be accessed by all GGAS participants and members of the public. Its basic functions include:

- ▼ listing details of accreditations and projects in both GGAS and the ESS
- ▼ facilitating registration and transfer of certificates
- ▼ listing details and tracking ownership of certificates
- ▼ allowing all participants to surrender certificates to meet mandatory obligations or personal offset schemes.

²⁷ Vintage refers to the calendar year that the abatement activity occurred in, irrespective of when the certificates are actually registered. That is, abatement activity in calendar year 2011 must be registered as 2011 vintage certificates. However certificates can be registered up to 6 months after the end of the calendar year (ie, up to 30 June 2012 in this example).

The Registry records information about each abatement certificate, including the entity, Rule and project type associated with it, the vintage and registration date. It also tracks the certificate status (live, surrendered, forfeited) and ownership history.

Each certificate represents 1 tonne of carbon dioxide equivalent emissions. All certificates are equal and once surrendered, cannot be reused.

The Registry imposes a \$0.15 charge for the registration of each certificate. This charge is intended to cover the cost of establishing, operating and maintaining the Registry over the life of GGAS, as well as to partially and indirectly fund some of our administration activities. For the 2011 calendar year, our net cost of administering both GGAS and ESS was approximately \$2.4 million. This cost is offset through certificate registration fees which amounted to \$3.3 million for the 2011 calendar year and was paid to Consolidated Revenue.

5.2 Trends certificate registration

A total of 11.8 million NGACs and one million LUACs were registered for projects undertaken during 2011. As in the past, most of these certificates (85%) were created from projects associated with the Generation Rule.

Table 5.1 shows the numbers of certificates registered by vintage and by rule since GGAS commenced. It shows that certificate creation declined in 2011 by 37% following the announcement to close the scheme on 1 July 2012. Until then, Generation Rule certificate creation generally increased each year. After peaking in 2006-08, DSA Rule certificate creation declined following the cessation of the energy efficiency component in 2009. CS Rule certificate creation remained steady until 2011. LUAC Rule certificate creations have remained steady over recent years.

Since GGAS commenced in 2003, over 142 million certificates have been created.

Table 5.1 Number of certificates registered since 2003 by rule

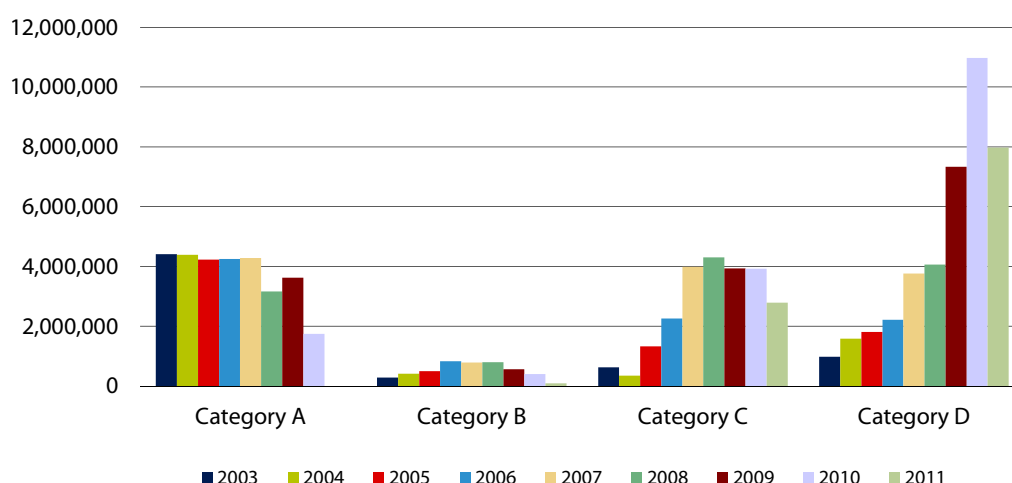
Vintage	Generation Rule	DSA Rule	CS Rule	LUAC Rule	Total
2003	6,317,835	345,141	0	0	6,662,976
2004	6,744,232	742,233	166,005	0	7,652,470
2005	7,879,171	1,509,199	538,471	94,277	10,021,118
2006	9,548,179	8,932,172	587,601	790,460	19,858,412
2007	12,813,319	9,925,197	632,561	1,285,645	24,656,722
2008	12,328,328	8,114,957	669,192	1,298,075	22,410,552
2009	15,454,992	744,916	623,020	1,517,237	18,340,165
2010	17,049,555	690,046	702,644	1,759,380	20,201,625
2011	10,861,823	731,964	161,614	1,010,588	12,765,989
Total	98,997,434	31,735,825	4,081,108	7,755,662	142,570,029

5.2.1 Source of Generation Rule certificates

The Generation Rule is the primary source of abatement certificates, representing 69% of all certificates registered since 2003. However, the number of certificates for each category of generator and each fuel type used in projects accredited under this rule varies considerably.

Figure 5.1 shows the number of certificates registered under the Generation Rule by category of generator. (For information on the different categories, see Appendix A.) It indicates that Category A projects have been a steady source of Generation Rule certificates. However, the number of Category A certificates declined in 2010, due to legislation to cease NGAC creation for this type of abatement activity after 30 June 2010. In contrast, Category D has become an increasingly significant source of Generation Rule certificates over recent years, and is now the dominant source of Generation Rule certificates. Category B remains the lowest source of Generation Rule certificates.

Figure 5.1 Source of Generation Rule certificates by category



Note: See Appendix A for a description of the Generation Rule categories.

Figure 5.2 shows the number of Generation Rule certificates registered by the 4 most common fuel types. It shows generation projects that involve natural gas²⁸ continued to be the dominant source of Generation Rule certificates in 2011. The reasons for this are threefold:

1. Natural gas has historically been used as a peaking fuel for generation, but in recent times it has been increasingly used to provide mid to base load power generation.

²⁸ Coal seam methane is treated as natural gas under GGAS.

2. The extraction of natural gas as fuel, particularly coal seam methane in South East Queensland, has increased substantially in recent years resulting in additional plants being commissioned.
3. Gas generators in Queensland have the option of either participating in the Queensland Gas Scheme or GGAS, as long as they do not claim benefits from both schemes for the same MWh of generation. When prices for GECs²⁹ are above the trading price for NGACs, companies will create GECs. However, during the first half of 2011 the GEC price remained below the price of NGACs, and consequently these generators generally opted to create NGACs. By mid-July 2011, this situation was no longer the case with spot market NGAC prices trading close to, or below parity with, GECs.

Figure 5.2 Source of Generation Rule certificates by major fuel types

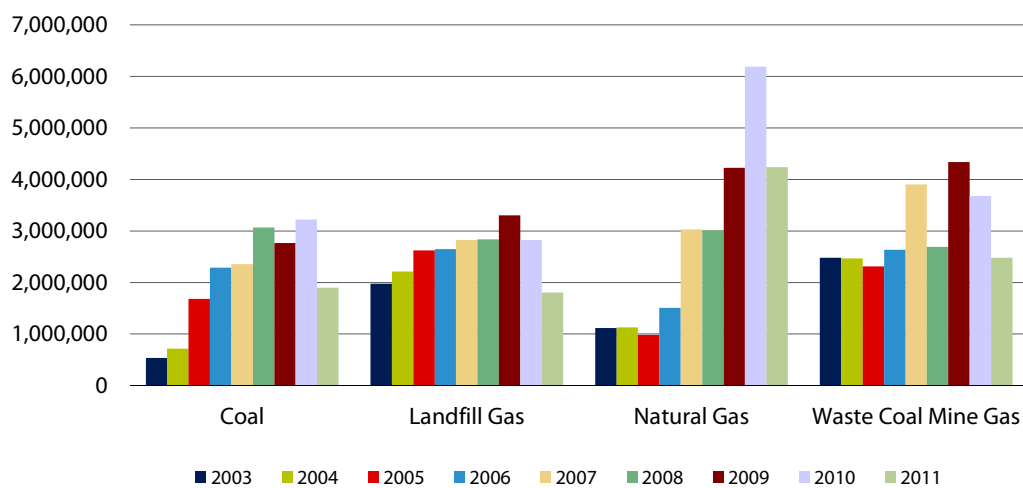


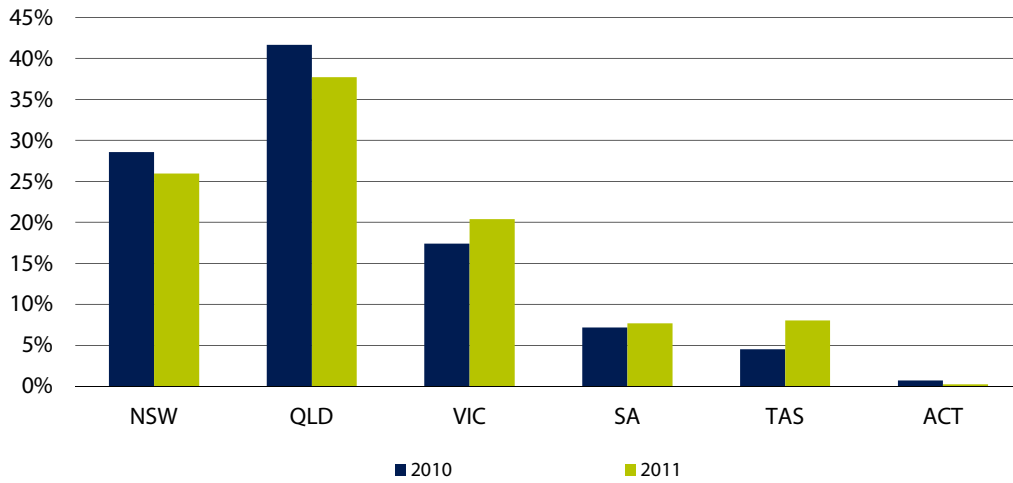
Table B.7 in Appendix B provides more detailed information on changes in the numbers of Generation Rule certificates by category of generator and fuel type over the life of GGAS.

Generation Rule certificates can be created and registered for abatement activities outside of NSW and the ACT only if the generating system involved is connected to the NSW and ACT electricity grids via the national electricity grid. Figure 5.3 shows Generation Rule certificates by the jurisdiction in which the abatement activities took place. It indicates that activities in Queensland were the largest source of Generation Rule certificates in 2011.

Table B.8 in Appendix B provides more detailed information on changes in the numbers of Generation Rule certificates by jurisdiction.

²⁹ Gas electricity certificates.

Figure 5.3 Source of Generation Rule certificates by jurisdiction

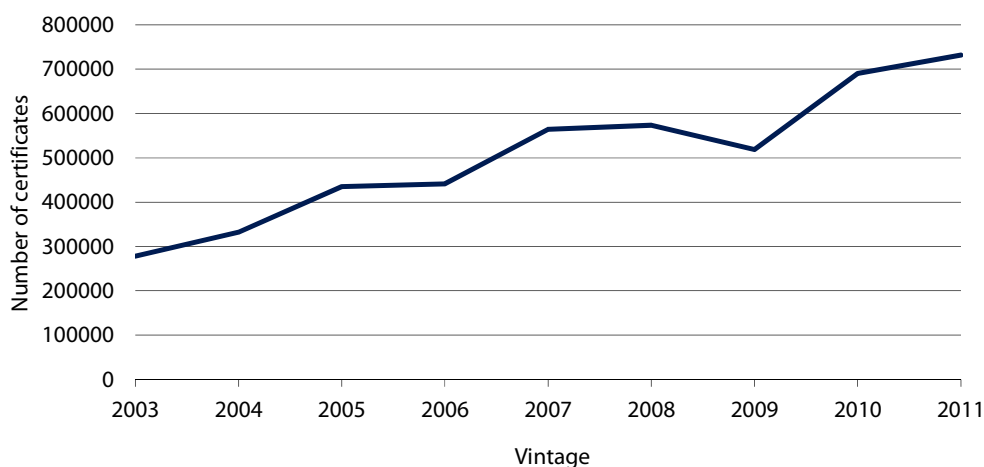


5.2.2 DSA Rule certificates

As previously noted, since 1 July 2009, certificate creation under the DSA Rule is only allowed under the Generation Emissions Method (on-site generation). The number of Generation Emissions Method certificates registered has remained consistent, increasing slightly almost every year (Figure 5.4). In addition, virtually all of these certificates have been created through on-site generation projects in the industrial sector.

Tables B.9 and B.10 in Appendix B provide more detailed information in the numbers of DSA Rule certificates created.

Figure 5.4 Certificate creation under Generation Emissions Method of the DSA Rule



5.2.3 CS Rule and LUAC Rule certificates

With only a small number of Abatement Certificate Providers and consistent certificate creation each year, further breakdown of CS Rule and LUAC Rule creation is not included here. For creation history by accreditation, refer to Appendix B, tables B.36 and B.37.

5.3 Certificates surrendered

Table 5.2 and Figure 5.5 show the trends in certificates surrendered and the balance of certificates that remain 'live' and available for transfer.

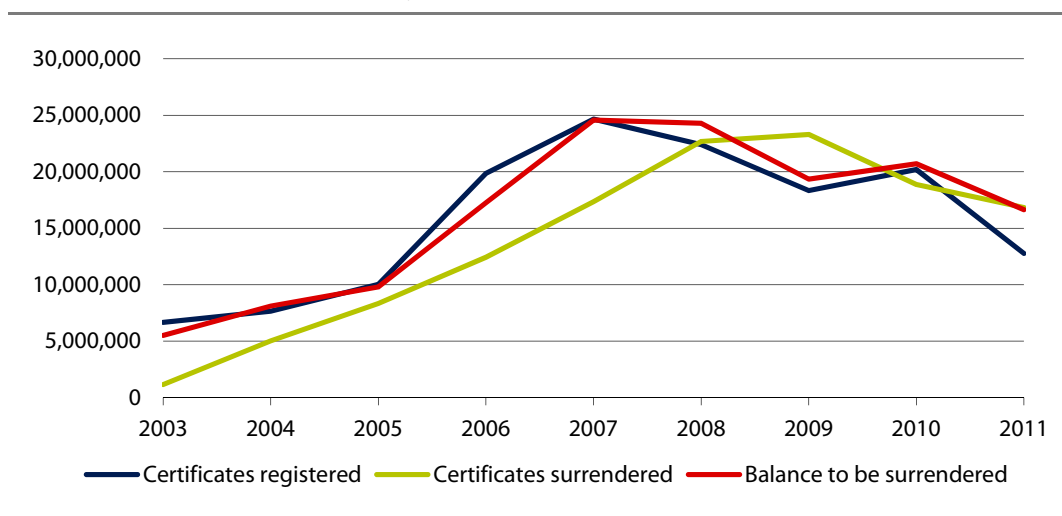
Table 5.2 Total certificates surrendered and balance to be surrendered by vintage/compliance year^a

Certificate vintage/ Compliance year	Certificates registered	Certificates surrendered	Balance to be surrendered ^b
2003	6,662,976	1,166,866	5,496,110
2004	7,652,470	5,037,847	8,110,733
2005	10,021,118	8,322,356	9,809,495
2006	19,858,412	12,424,062	17,243,845
2007	24,656,722	17,336,184	24,564,383
2008	22,410,552	22,671,606	24,303,329
2009	18,340,165	23,297,876	19,345,618
2010	20,201,625	18,854,443	20,692,800
2011	12,765,989	16,828,906	16,629,883

^a Includes surrenders to ACT Compliance Regulator and voluntary surrenders as shown in Table 5.3.

^b Accumulated values.

Figure 5.5 Total certificates surrendered and balance to be surrendered by vintage/compliance year^a



^a Includes surrenders to ACT Compliance Regulator and voluntary surrenders as shown in Table 5.3.

5.4 Certificates voluntarily surrendered

The Registry allows any member of the public to own certificates which can be surrendered to offset emissions – this process is referred to as voluntary certificate surrender. For 2011, a total of 628,688 certificates were voluntarily surrendered by 16 organisations and individuals, including but not limited to:

- ▼ Carbon Bank Ltd
- ▼ Coolplanet
- ▼ ERM Power Retail Pty Ltd
- ▼ Integrated Energy Services Corporation Pty Ltd
- ▼ Melbourne Water Corporation
- ▼ nlc Pty Ltd
- ▼ Origin Energy Electricity Ltd
- ▼ Pangolin Associates Pty Ltd
- ▼ Sydney Water Corporation, and
- ▼ TRUenergy Pty Ltd.

The reasons for voluntary surrender vary and are often undisclosed. However, in general certificates are surrendered to offset flight, vehicle and electricity emissions and to meet individual carbon neutrality benchmarks.

Although, voluntary surrenders have varied from year to year, the total number of certificates voluntarily surrendered has remained high in recent years, with 2011 recording the highest number of certificates surrendered. Since the start of GGAS, a total of 1,783,041 certificates have been voluntarily surrendered (Table 5.3).

Table 5.3 Total certificates voluntarily surrendered

Compliance year	Generation Rule	DSA Rule	CS Rule	Total
2003	0	0	0	0
2004	0	0	0	0
2005	5,000	100	0	5,100
2006	0	1,397	1,263	2,660
2007	10,853	32,593	6,452	49,898
2008	383,469	72,701	31,920	488,090
2009	120,211	130,585	3,801	254,597
2010	160,123	186,880	7,005	354,008
2011	306,875	231,982	89,831	628,688
Total	986,531	656,238	140,272	1,783,041

6 Supply and demand for certificates

Historical creation of certificates by all Abatement Certificate Providers is publicly accessible on the GGAS & ESS Registry. The availability of this data has assisted market participants to undertake their own projections of supply and demand for a forthcoming year, or more recently, at GGAS closure. Additionally we have periodically published supply and demand projections via quarterly newsletters, as well as in each annual report on compliance and operation of GGAS.

In our 2010 report on compliance and operation of GGAS, we noted that although supply had fallen below demand in 2009 (and had only just met demand for 2010), the 6 years prior to 2009 had seen an oversupply of certificates which we projected would more than assist in meeting projected demand in 2011, and into the future.

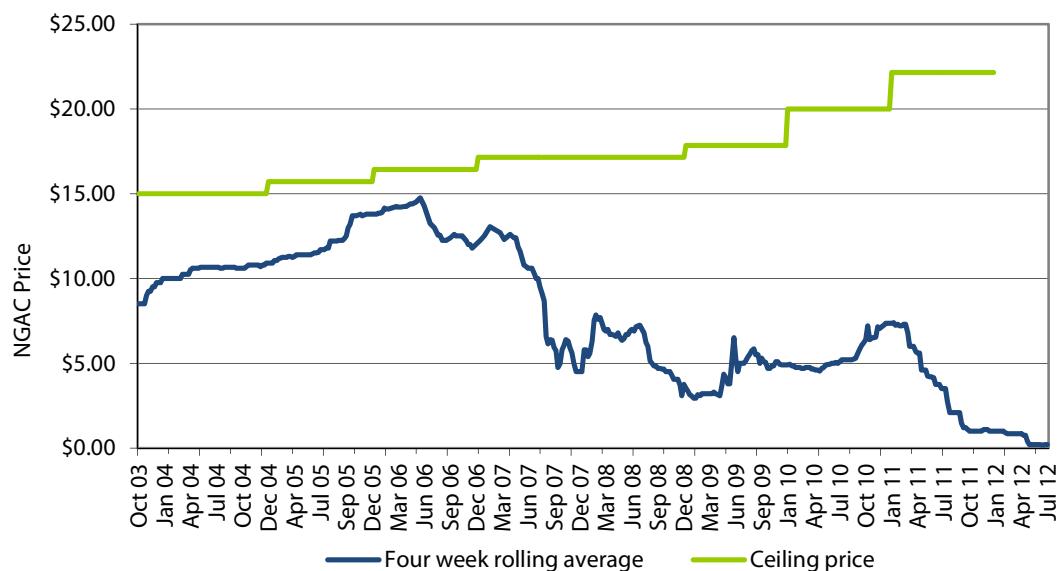
Twelve months on, this projection of an over-supply of certificates has been realised, despite a significant decrease in supply for 2011 (from that projected). The primary reason for this decrease in 2011 supply was the Commonwealth's announcement (in February 2011) of a proposed carbon pricing mechanism to start in mid-2012.

With GGAS legislated to continue until commencement of a national carbon scheme of similar aims and objectives, the announcement and subsequent introduction of legislation (in November 2011) for a national carbon pricing mechanism commencing on 1 July 2012, had major impacts on NGAC prices and certificate supply during 2011.

6.1 NGAC prices and supply in 2011

Figure 6.1 illustrates the trends in the NGAC spot price from the inception of GGAS to 30 June 2012 against the effective NGAC ceiling price (equivalent to the greenhouse penalty in a given year – inclusive of company tax, as payment of the penalty is not tax deductible, unlike the purchase of certificates).

It should be noted however that the price recorded for NGAC spot trades constitutes only a small proportion of total NGAC transactions. Most NGAC transactions are bilateral trades, where the price may be agreed in advance for an extended period. The NGAC prices for such transactions are not publicly disclosed and may differ significantly from the prevailing spot price. Nevertheless, the spot price provides a useful publicly available guide to broad movements in the NGAC price over time.

Figure 6.1 Trends in the NGAC spot price 2003 to 2012

Note 1: This figure shows a 4 week rolling average of the last market spot price. This data accounts only for NGACs traded through NGES and may not reflect the price paid by NGAC buyers at the times shown. The Scheme Administrator recommends that persons seek independent advice before buying or selling NGACs, and cautions against making decisions based solely on this chart.

Note 2: Ceiling price reflects the annual greenhouse penalty adjusted for company tax relative to NGAC price.

Data source: The Green Room, published by NGES (see www.nges.com.au).

It is clear that NGAC price declines and intermittent recoveries over the past few years (in contrast to the early years of GGAS), generally reflects the accumulated excess supply of certificates and uncertainty in the market about the introduction of a national carbon price signal at that particular point in time.

For example, the April 2007 election announcement that a national trading scheme, the Carbon Pollution Reduction Scheme (CPRS), was to commence in July 2010 resulted in the first major NGAC price collapse (from approximately \$13 to less than \$5). Similarly, the subsequent announcement in April 2010 that the CPRS would be deferred until after 2012 (after failing to pass through the Senate) resulted in a modest recovery in NGAC spot prices (to about \$7) up until commencement of calendar year 2011.

As can be seen from Figure 6.1, the Commonwealth's February 2011 announcement of a proposed national carbon pricing mechanism (to start on 1 July 2012) began a prolonged period of decline in the market price for NGACs, from \$7.40 in January 2011 to \$1.00 by mid-October 2011.

This October 2011 spot price level of \$1 coincided with the passage of legislation to introduce the national carbon pricing mechanism through the House of Representatives, with this floor price being maintained following subsequent passage of the legislation through the Senate on 8 November 2011.

From this point onwards, the considerable uncertainty already existing in the market during 2011 was further exacerbated by such considerations as:

- ▼ Whether GGAS would in fact cease upon commencement of a national scheme. This was subsequently confirmed by the NSW Government on 5 April 2012, via public announcement, with formal gazettal of the GGAS closure Proclamation and Regulation occurring on 11 May 2012.
- ▼ Whether compensation would be made available by the Commonwealth to holders of unused certificates at GGAS end (despite the Commonwealth being on record that this would not be the case)³⁰.
- ▼ The eligibility of, and extent to which, some accredited parties under GGAS could transition to the Commonwealth's Carbon Farming Initiative (CFI), and whether abatement prior to 1 July 2012 might be recognised instead for credits under the CFI.
- ▼ The extent to which parties accredited under both GGAS and the Queensland Gas Scheme (QGS) would create GECs (under the QGS) instead of NGACs. Historically, NGACs have traded at higher spot market prices than GECs, and as there can be no 'double-dipping' between schemes, NGACs have been preferred for creation. However from mid-July 2011 NGACs were trading below GEC prices on the spot-market.
- ▼ The NGAC price fell to \$0.18 following the announcement that GGAS would close on 1 July 2012.

All the above considerations, coupled with an already oversupplied NGAC market, affected 2011 certificate supply. In our 2010 report on compliance and operation of GGAS (prior to the announcement that GGAS would close), we projected the supply of certificates in 2011 at approximately 23 million. This was almost twice the amount actually created of approximately 12.8 million. This is partly explained by the spot price falling to \$0.18 which is close to the price floor, as its costs \$0.15 per certificate to register certificate creation.

Despite this significant reduction in 2011 supply, the surplus of certificates created in previous years has resulted in approximately 17 million unsurrendered certificates being available to meet demand (estimated at 7 million NGACs) for the final GGAS compliance period of 1 January to 30 June 2012. It should be noted that 2012 vintage certificates are able to be created up to 31 August 2012, which may add to the final over-supply amount at GGAS closure.

³⁰ It should be noted that GGAS legislation specifically states that the NSW Government is not liable for compensation to participants upon scheme closure - s.179A of the *Electricity Supply Act 1995*. Conjecture on compensation from the Commonwealth stemmed from previous arrangements proposed for the earlier (but subsequently scrapped) proposal for a national scheme to start in mid-2010 (the CPRS).

6.1.1 Other events and developments affecting supply in 2011 and into 2012

- ▼ 7 applications for accreditation were approved in 2011 and 28 accreditations were cancelled³¹.
- ▼ 24 accreditations were amended, resulting in the potential increase in certificate creation for individual accreditations.
- ▼ The development and implementation of the few remaining future projects was delayed, accelerated or in some cases abandoned. This affected the timing of certificate creation in 2011.

6.1.2 Other events and developments affecting demand in 2011 and into 2012

In its *New South Wales Annual Planning Report 2011*,³² TransGrid revised its projections of future electricity demand approximately 5% downwards compared to those in its 2010 Annual Planning Report. This resulted in a commensurate decrease in projected NGAC demand due to the decrease in the total greenhouse benchmarks.

The future projections for reduced electricity demand in TransGrid's Annual Planning Report 2011 reflect their assumptions about:

- ▼ increases in retail prices due to increases in the post 2012 period to distribution and transmission changes
- ▼ the introduction of a carbon price
- ▼ allowances for energy efficiencies achieved via phasing out of electric hot water systems and incandescent lamps, and
- ▼ the introduction of the ESS.³³

6.2 Results of our projections for supply and demand at GGAS closure

Figure 6.2 shows the actual levels of supply and demand for abatement certificates since GGAS began, and our projection for supply and demand at closure of GGAS (noting that the 2012 year in the figure below is for a period of six months only). The data are for the NSW and ACT schemes combined, and are current as at 30 June 2012, noting that Abatement Certificate Providers have until 31 August 2012 to create final certificates of 2012 vintage, with Benchmark Participants having until 30 September

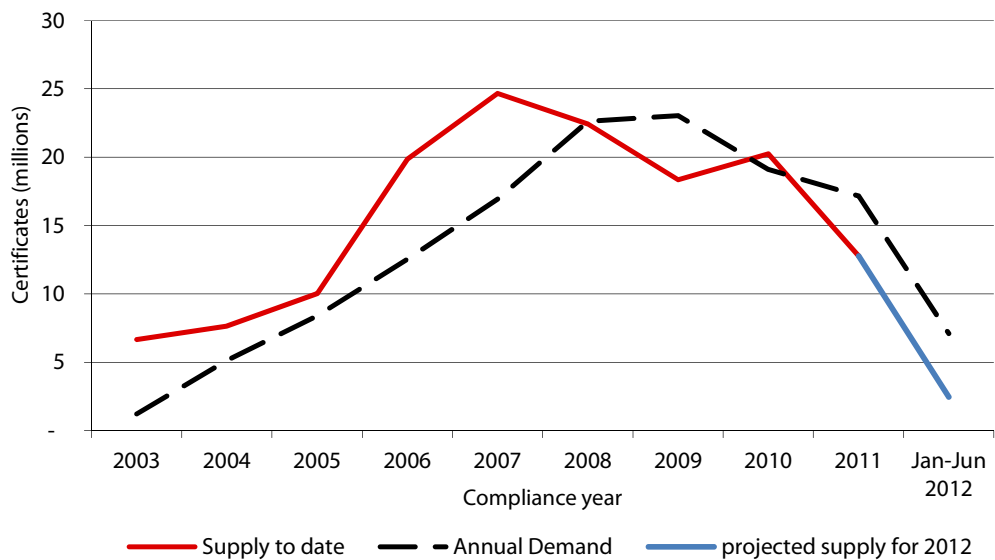
³¹ 10 of the 28 being energy efficiency related projects under the DSA Rule, for which eligibility ceased in July 2009 (due to commencement of the ESS). The remainder were all Generation Rule related.

³² See Table A3.1 of the TransGrid NSW Annual Planning Report 2011, available at www.transgrid.com.au/network/np/Pages/default.aspx. The TransGrid NSW Annual Planning Report for 2012 was not available when this report was prepared, therefore projections may differ.

³³ Refer sections 4.2 and 4.3 of TransGrid's NSW Annual Planning Report 2011 www.transgrid.com.au/network/np/Pages/default.aspx

to complete their surrender obligations for the final compliance period of 1 January to 30 June 2012. These dates are prescribed in the Act.

Figure 6.2 IPART's projections for supply and demand for abatement certificates at GGAS end



Note: As at 30 June 2012.

This final projection of supply and demand is sensitive to current uncertainty (at the time of this report) about final transition arrangements of GGAS projects eligible under the CFI. In this regard most Abatement Certificate Providers that intend to transition to the CFI have advised that they will not be creating NGACs for their remaining eligible abatement activity in 2012 as it will jeopardise their potential claim under the CFI.

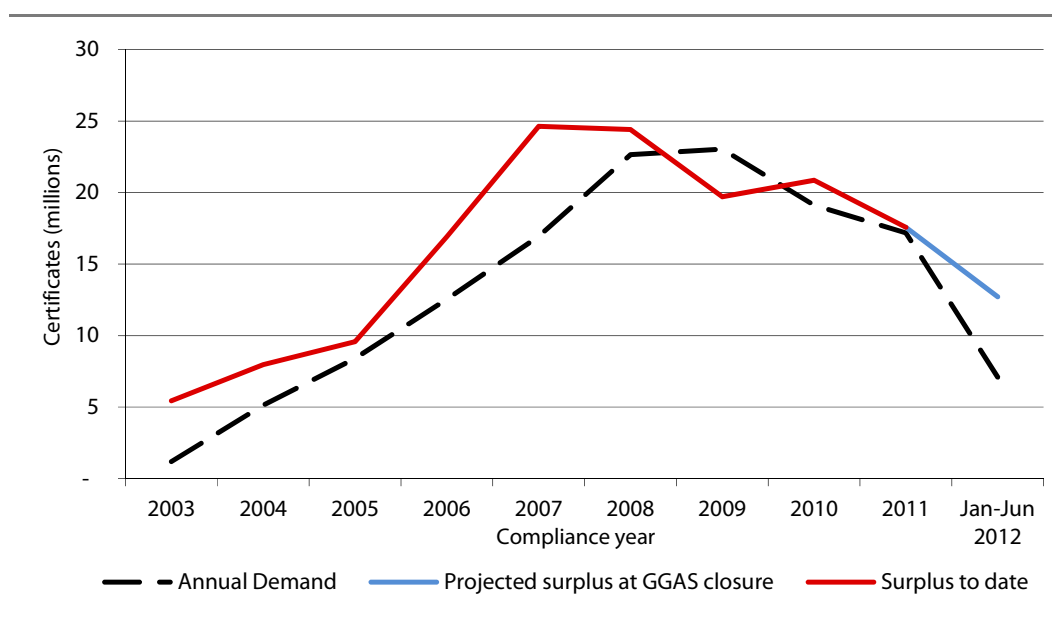
Other Abatement Certificate Providers, with no ability to transition to CFI and with no NGAC supply contracts to fulfil, are still unsure as to their NGAC creation intentions for the final abatement activity period of 1 January 2012 to 30 June 2012. However, most have advised that they will not be creating due to the existing over-supply, the virtually non-existent market for NGACs, the cost of registering certificates (\$0.15 per certificate), and the requirement to have these certificates audited.

Hence the single projected supply scenario above represents those Abatement Certificate Providers who have either registered 2012 vintage certificates already (for the period 1 January 2012 to 30 June 2012), or those who have expressly advised their intention to do so in the remaining period available (to 31 August 2012).

6.2.1 Projected balance between supply and demand

As certificates do not expire, and those created for a particular vintage can be surrendered against a compliance obligation for any year thereafter,³⁴ the surplus of supply experienced in the first 6 years (see Figure 6.3 below, noting that 2012 is for six-months only) has meant that projected demand for 2012 will be more than readily met, despite the significant reduction in 2011 supply and limited creation prospects for 2012.

Figure 6.3 IPART's projections for cumulative surplus and annual demand for abatement certificates under GGAS, at GGAS end



Note: As at 30 June 2012.

6.2.2 Assumptions used in projecting demand

For projecting demand in the final 6 month period of 2012, we used a NSW Pool Coefficient figure of 0.976t CO₂-e/MWh, as calculated and published by the Scheme Administrator in line with the requirements of *Greenhouse Gas Benchmark (Compliance) Rule No.1 of 2003*. This figure was marginally up from the figure of 0.975t CO₂-e/MWh for 2011.

The NSW Pool Coefficient is an indicator of the average emissions intensity of electricity sourced from the National Electricity Market for use in NSW. It represents the emissions of greenhouse gases (in tonnes of carbon dioxide equivalent) per MWh of electricity supplied from the 'pool' of major power stations serving the NSW electricity grid (Category B Generators).

³⁴ For example, a certificate of 2004 vintage may be surrendered against a compliance obligation in any year from 2005 onwards.

The NSW Pool Coefficient influences the supply and demand for certificates, as it is used in calculating Benchmark Participants' GGAS obligations, as well as the number of certificates an Abatement Certificate Provider can create from an accredited project.

In addition to using the prescribed NSW Pool Coefficient figure of 0.976t CO₂-e/MWh for 2012, we also made the following assumptions when projecting final demand at GGAS closure:

- ▼ **Population:** We assumed population will be in line with mid-range estimates of the NSW and ACT population, as published by the Australian Bureau of Statistics.³⁵
- ▼ **Electricity demand:** We assumed electricity demand will be in line with mid-range estimates for NSW and the ACT, as published by TransGrid³⁶. These are stated to take account of the impact of the ESS on electricity demand. Given the final GGAS compliance period for 2012 is 6 months only, the figure used for projecting demand is 50% of that published by TransGrid.
- ▼ **Distribution Loss Factors:** We projected distribution loss factors based on the actual weighted average from the returns of 2011 benchmark statements.
- ▼ **Renewable Energy Target:** We assumed the number of RECs³⁷ counted will rise incrementally based on expected increases in electricity demand and the renewable power percentage.³⁸

³⁵ ABS Catalogue Number 3222.0, Population Projections Australia 2006 to 2101, latest issue 4 September 2008.

³⁶ TransGrid Annual Planning Report 2011, see www.transgrid.com.au/network/np/Pages/default.aspx. The TransGrid NSW Annual Planning Report for 2012 was not available when this report was prepared, therefore projections may differ.

³⁷ In addition to surrendering NGACs or LUACs, Benchmark Participants are permitted to account for RECs surrendered under the *Renewable Energy (Electricity) Act 2000* (Cth). Only RECs associated with electricity purchases in NSW and the ACT can be counted.

³⁸ This is the process for determining the actual number of RECs which must be surrendered each year to discharge a liability, as specified in the *Renewable Energy (Electricity) Regulations 2001* (Cth).



Appendices

A Categories of the Generation Rule

Under GGAS, generating systems are assigned to certain Categories, which dictate the approach to NGAC creation and the accordant NSW Production Baseline. Table A.1 breaks down the types of generating systems by category and fuel source. Fuels used in generating systems range from biomass (including bagasse), hydropower, natural gas, coal, and methane derived from coal mines or landfill.

Category A

Category A generating systems are those which pro-actively entered into power purchase agreements (PPAs) with electricity retailers under the previous NSW voluntary benchmarks scheme, and have a respective NSW Production Baseline as determined by the Generation Rule. In the case of Category A generating systems, the Deemed Retailer to the PPA (ie, the electricity retailer) is eligible for abatement for generation below the resultant baseline figure, while the generator (counter-signatory to the PPA) is eligible for abatement associated with generation above this baseline figure. Category A is no longer an eligible activity, but is still defined in the Generation Rule.

Category B

A Category B generating system is essentially an existing and prescribed NSW 'base-load' generating system, which in the case of a coal fired power station, effectively operates at an emissions intensity equal to, or greater than, the NSW Pool Coefficient. As such, it is unable to use the Relative Intensity Approach to create certificates, but may instead undertake efficiency improvements such as turbine upgrades or fuel switching, to improve the emissions intensity at which it operates. The extent to which the efficiency improvement is demonstrated (confirmed via performance monitoring and audit verification) determines the eventual numbers of abatement certificates created.

Category C

A Category C generating system on the other hand, is generally one that commenced operations prior to the announcement of GGAS and in the case of fossil fuel fired generating systems, has a NSW Production Baseline equal to its average annual output during the years 1997-2001. Under the Relative Intensity Approach, this category of generation creates abatement certificates on the basis of each MWh (of

lower emissions intensity generation) above its respective NSW Production Baseline Figure, reflecting the difference in emission intensity between the generation and the NSW Pool Coefficient.

Category D

Category D generating systems (broadly, those commissioned after GGAS was first announced by the NSW Government in January 2002) are generally representative of newer and ‘cleaner’ technologies and have a designated NSW Production Baseline of zero MWh. This effectively means that using the Relative Intensity Approach, a generator for this category of power station may create abatement certificates for each MWh (of lower emissions intensity generation) above its zero MWh baseline, reflecting the difference in emission intensity between the generation and the NSW Pool Coefficient.

Table A.1 Generating systems by fuel and source

Category	Fuel source
Category A: Biomass	This type of plant burns biomass, including bagasse (sugar cane waste) and sawmill waste
Category A: Natural Gas	Natural gas (fossil fuel)
Category A: Waste Coal Mine Gas	Methane drained from mines as a result of coal mining operations (regardless of the period of time between draining the gas from the coal mine and use of the mine for coal mining operations) and includes coal seam gas drained from closed coal mines (fossil fuel)
Category A: Hydro	Hydropower
Category A: Landfill Gas	Gas derived from degradation of waste in landfills
Category B: Coal	Coal (fossil fuel)
Category C: Coal	Coal (fossil fuel)
Category C: Landfill Gas	Gas derived from degradation of waste in landfills
Category C: Natural Gas	Natural gas (fossil fuel)
Category C: Sewage Gas	Generation based on gas derived from sewage
Category D: Biomass	This type of plant burns biomass, including bagasse (sugar cane waste) and sawmill waste
Category D: Coal	Coal (fossil fuel)
Category D: Coal Seam Methane	Methane drained from (unmined) coal seams for the purposes of power generation (fossil fuel)
Category D: Landfill Gas	Gas derived from degradation of waste in landfills
Category D: Natural Gas	Natural gas (fossil fuel)
Category D: Waste Coal Mine Gas	Methane drained from mines as a result of coal mining operations (regardless of the period of time between draining the gas from the coal mine and use of the mine for coal mining operations) and includes coal seam gas drained from closed coal mines (fossil fuel)

B | Registry data

This section includes information on all current and cancelled accreditations, including future projects that have not yet been implemented.

This appendix contains 3 parts.

Part B.1 provides accreditation statistics detailing numbers of new and cancelled accreditations by Rule for each year that GGAS has been operating.

Part B.2 provides a breakdown of certificates created by categories of the Generation Rule and DSA Rule.

Part B.3 provides a detailed breakdown of certificate registration for each accredited project in a given vintage year. Certificates are registered for projects rather than accreditations, as a DSA Rule accreditation may include multiple projects. An asterisk (*) beside the project name indicates that the project has been cancelled.

In some cases data for earlier years have been aggregated. Refer to previous the *Compliance and Operation of the NSW Greenhouse Gas Reduction Scheme during 2010* for yearly data.

Data in this chapter are current as at 30 June 2012.

B.1 Accreditation statistics

Table B.1 Generation Rule accreditations approved each year by category and fuel type

Category – type	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Category A – Biomass	0	3	0	0	0	0	0	0	0	3
Category A – Hydro	0	13	6	0	0	0	1	0	0	20
Category A – Landfill Gas	9	12	1	0	1	0	0	0	0	23
Category A – Natural Gas	0	2	3	0	0	0	0	0	0	5
Category A – Waste Coal Mine Gas	0	2	0	0	0	0	0	0	0	2
Category B – Coal	0	6	1	0	0	0	0	0	0	7
Category C – Biomass	0	0	0	0	0	1	0	0	0	1
Category C – Coal	0	2	0	2	2	1	0	0	1	8
Category C – Hydro	0	0	0	0	2	0	0	0	0	2
Category C – Landfill Gas	1	0	0	0	0	0	0	0	0	1
Category C – Natural Gas	0	2	6	0	2	4	0	1	0	15
Category C – Sewage Gas	0	1	0	0	0	0	0	0	0	1
Category D – Biomass	0	2	2	1	1	0	0	0	0	6
Category D – Coal	0	1	1	1	0	1	0	0	1	5
Category D – Coal Seam Methane	0	0	0	0	1	0	0	0	2	3
Category D – Landfill Gas	4	14	1	1	8	4	8	0	2	42
Category D – Natural Gas	0	3	3	2	5	5	2	5	1	26
Category D – Sewage Gas	0	0	1	0	0	0	0	1	0	2
Category D – Waste Coal Mine Gas	0	4	0	2	2	1	1	0	0	10

Table B.2 Generation Rule accreditations approved each year by jurisdiction

Jurisdiction	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Australian Capital Territory	2	0	0	0	1	0	0	0	0	3
New South Wales	3	27	3	2	6	4	6	3	0	54
Queensland	0	14	4	4	3	6	3	0	5	39
South Australia	4	5	3	0	2	3	0	0	0	17
Tasmania	0	0	0	0	7	1	0	3	0	11
Victoria	5	21	15	3	5	3	3	1	2	58

Table B.3 DSA Rule accreditations approved each year by calculation method

Calculation method	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Generation Emissions Method	0	4	1	0	2	1	1	8	0	8
Default Abatement Factors Method	0	7	8	14	11	7	0	-	-	47
Metered Baseline Method - normalised by NABERS	0	1	1	0	1	1	0	-	-	4
Metered Baseline Method - per unit of output	1	0	1	0	1	0	0	-	-	3
Metered Baseline Method - unaffected by output	0	0	1	1	0	0	0	-	-	2
Project Impact Assessment Method	2	36	31	2	4	1	0	-	-	76

Table B.4 DSA Rule accreditations approved each year by project type

Calculation method	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Energy Efficiency: Commercial	2	25	22	6	5	4	0	–	–	64
Energy Efficiency: Industrial	1	12	14	0	4	1	0	–	–	32
Energy Efficiency: Residential	0	4	4	8	6	4	0	–	–	26
Energy Source Substitution: Commercial	0	1	0	0	1	0	0	–	–	2
Energy Source Substitution: Residential	0	2	2	3	1	0	0	–	–	8
On-site Generation: Commercial	0	0	0	0	0	0	0	1	0	1
On-Site Generation: Industrial	0	4	1	0	1	1	1	7	0	15
On-Site Generation: Residential	0	0	0	0	1	0	0	0	0	1

Table B.5 LUAC Rule accreditations approved each year by calculation method

Calculation method	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Existing Plant Baseline Method	1	0	1	0	2	0	0	0	0	4
Plant Extension or New Plant Baseline Method	0	0	0	0	0	1	0	0	0	1
Specific Abatement Project	0	0	0	2	2	0	1	0	0	5

Table B.6 CS Rule accreditations approved each year

Calculation method	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Carbon Sequestration Estimation Methodology	0	1	3	1	1	1	0	0	0	7

B.2 Certificate creation statistics – Generation and DSA Rules

Table B.7 Source of Generation Rule certificates by category and fuel type

Category – fuel type	2003-04	2005	2006	2007	2008	2009	2010	2011	Total
Category A – Biomass	25,796	0	0	0	0	0	0	0	25,796
Category A – Hydro	256,713	148,176	160,941	77,148	94,977	120,164	50,504	0	908,623
Category A – Landfill Gas	2,543,491	1,379,695	1,319,360	1,284,691	1,228,279	1,222,469	600,524	0	9,578,509
Category A – Natural Gas	1,211,389	675,775	673,645	685,432	681,992	670,017	334,147	0	4,932,397
Category A – Waste Coal Mine Gas	4,769,523	2,029,783	2,096,753	2,235,167	1,156,935	1,611,392	762,919	0	14,662,472
Category B – Coal	705,566	498,952	831,451	784,624	794,859	562,143	401,212	93,784	4,672,591
Category C – Biomass	0	0	0	364,190	377,617	443,488	451,121	176,961	1,813,377
Category C – Coal	418,442	1,025,219	1,268,198	1,476,814	1,862,951	1,897,178	2,246,634	1,586,094	11,781,530
Category C – Hydro	0	0	80,000	0	0	0	0	0	80,000
Category C – Landfill Gas	31,571	0	0	0	0	0	0	0	31,571
Category C – Natural Gas	408,431	206,331	721,861	1,949,269	1,887,867	1,400,168	1,025,526	802,748	8,402,201
Category C – Sewage Gas	118,309	100,578	184,989	196,181	179,509	193,274	202,679	231,000	1,406,519
Category D – Biomass	11,518	30,521	35,165	40,562	38,298	42,297	41,817	21,160	261,338
Category D – Coal	130,665	159,493	191,641	94,889	409,428	304,311	576,039	217,024	2,083,490
Category D – Coal Seam Methane	0	0	0	12,978	29,744	16,575	376,914	4,816	441,027
Category D – Landfill Gas	1,622,121	1,241,413	1,329,685	1,545,181	1,612,264	2,080,422	2,229,742	1,806,005	13,466,833
Category D – Natural Gas	629,578	101,803	117,268	399,105	440,634	2,157,795	4,827,123	3,434,988	12,108,294
Category D – Sewage Gas	0	0	0	0	0	4,173	3,036	5,561	12,770
Category D – Waste Coal Mine Gas	178,954	281,432	537,222	1,667,088	1,532,974	2,729,126	2,919,618	2,481,682	12,328,096

Table B.8 Source of Generation Rule certificates by jurisdiction

Jurisdiction	2003-04	2005	2006	2007	2008	2009	2010	2011	Total
Category A – New South Wales	6,402,194	2,911,523	2,992,008	3,134,325	2,062,179	2,543,517	1,222,833	0	21,268,579
Category A – Queensland	78,334	47,291	46,857	42,830	36,700	38,106	19,167	0	309,285
Category A – South Australia	706,633	410,540	392,389	354,894	310,464	298,255	148,032	0	2,621,207
Category A – Victoria	1,619,751	864,075	819,445	750,389	752,840	744,164	358,062	0	5,908,726
Category B – New South Wales	705,566	498,952	831,451	784,624	794,859	562,143	401,212	93,784	4,672,591
Category C – New South Wales	31,571	0	0	0	0	0	0	0	31,571
Category C – Queensland	48,351	86,290	198,094	704,017	716,997	747,332	794,088	248,062	3,543,231
Category C – South Australia	355,626	198,116	607,911	1,143,658	1,309,641	1,162,541	1,012,393	798,767	6,588,653
Category C – Tasmania	0	0	220,271	355,276	369,298	84,925	0	0	1,029,770
Category C – Victoria	541,205	1,047,722	1,228,772	1,783,503	1,912,008	1,939,310	2,119,479	1,749,974	12,321,973
Category D – Australian Capital Territory	193,466	110,062	126,431	120,976	123,250	122,471	121,000	25,435	943,091
Category D – New South Wales	1,292,861	1,060,731	1,003,320	1,101,578	1,295,840	2,768,948	3,246,608	2,726,042	14,495,928
Category D – Queensland	909,967	509,741	824,476	1,977,587	2,162,444	3,595,536	6,286,048	3,850,000	20,115,799
Category D – South Australia	29,659	17,780	32,480	22,819	27,005	60,180	62,346	35,083	287,352
Category D – Tasmania	0	0	45,121	103,810	41,909	356,436	769,721	870,582	2,187,579
Category D – Victoria	146,883	116,348	179,153	433,033	412,894	431,128	488,566	464,094	2,672,099

Table B.9 DSA Rule certificate creation by calculation method

Calculation method	2003-04	2005	2006	2007	2008	2009	2010	2011	Total
Generation Emissions Method	610,618	435,216	441,440	564,204	573,773	518,539	690,046	731,964	4,565,800
Default Abatement Factors Method	342,303	1,002,992	8,377,582	9,200,268	7,375,518	116,691	–	–	26,415,354
Metered Baseline Method – baseline per unit of output	44,335	19,322	51,325	80,023	79,659	62,573	–	–	337,237
Metered Baseline Method – unaffected by output	1,615	4,187	5,910	6,111	5,997	4,122	–	–	27,942
Metered Baseline Method – normalised by NABERS	10,337	8,201	12,760	20,692	21,252	10,657	–	–	83,899
Project Impact Assessment Method	78,166	39,281	43,155	53,899	58,758	32,334	–	–	305,593

Table B.10 DSA Rule certificate creation by project type

Project type	2003-04	2005	2006	2007	2008	2009	2010	2011	Total
On-site Generation: Commercial	0	0	0	0	0	135	0	0	135
On-site Generation: Industrial	610,618	435,216	441,440	564,195	573,763	518,404	684,698	731,964	4,560,298
On-site Generation: Residential	0	0	0	9	10	0	0	0	19
Energy Efficiency: Commercial	62,969	47,924	67,755	868,049	809,682	32,509	–	–	1,888,888
Energy Efficiency: Industrial	68,439	36,814	66,818	99,709	103,155	77,177	–	–	452,112
Energy Efficiency: Residential	323,812	953,879	8,306,259	8,344,475	6,588,078	98,952	–	–	24,615,455
Energy Source Subs: Commercial	130	0	0	0	0	0	5,348	0	5,478
Energy Source Subs: Residential	21,406	35,366	49,900	48,760	40,269	17,739	0	0	213,440

B.3 Certificate creation statistics – by project

B.3.1 Generation Rule certificate creation by type and project

Table B.11 Category A: Biomass

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Essential Energy: Broadwater Generating System*	NSW	24,073	0	0	0	0	0	24,073
Essential Energy: Condong Cogeneration Plant*	NSW	628	0	0	0	0	0	628
Essential Energy: Harwood Cogeneration Plant*	NSW	1,095	0	0	0	0	0	1,095

Table B.12 Category A: Natural gas

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Sales : Varnsdorf Cogeneration System*	VIC	43,588	11,861	11,993	0	0	0	67,442
Endeavour Energy: Smithfield Energy Facility	NSW	2,432,875	646,520	646,791	670,017	334,147	0	4,730,350
Origin Energy Electricity Ltd: Alfred Hospital Cogeneration Plant*	VIC	21,827	9,302	8,404	0	0	0	39,533
Origin Energy Electricity Ltd: Royal Melbourne Hospital Cogeneration Plant*	VIC	44,876	17,749	14,804	0	0	0	77,429
Origin Energy Electricity Ltd: St Vincents Hospital Cogeneration Plant*	VIC	17,643	0	0	0	0	0	17,643

Table B.13 Category A: Waste coal mine gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Endeavour Energy: Appin Power Plant	NSW	6,220,420	1,373,685	530,423	1,011,062	453,357	0	9,588,947
Endeavour Energy: Tower Power Plant	NSW	2,675,639	861,482	626,512	600,330	309,562	0	5,073,525

Table B.14 Category A: Hydro

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Ausgrid: Glenbawn Hydro Generating System	NSW	43,618	1,243	1,326	9,497	8,130	0	63,814
EDL LFG (Vic) : Clayton & Springvale LFG Generating System	VIC	0	0	0	5,820	0	0	5,820
Essential Energy: Burrendong Hydro Generating System*	NSW	51,446	2,269	2,307	6,828	0	0	62,850
Essential Energy: Copeton Hydro Generating System*	NSW	52,769	14,360	15,683	16,066	4,256	0	103,134
Essential Energy: Nymboida Hydro Generating System*	NSW	34,386	7,895	10,504	9,098	6,990	0	68,873
Essential Energy: Oaky Hydro Generating System*	NSW	14,190	5,402	12,008	12,172	2,594	0	46,366
Essential Energy: Wyangala Hydro Generating System*	NSW	4,382	0	0	0	0	0	4,382
Origin Energy Electricity Ltd: Yarrawonga Hydro Generating System	VIC	168,659	28,892	23,862	31,088	14,444	0	266,945
TRUenergy : Blue Rock Dam Hydro Generating System*	VIC	11,150	2,025	4,093	4,234	2,254	0	23,756
TRUenergy : Cardinia Dam Hydro Generating System*	VIC	18,839	6,372	8,086	8,324	3,156	0	44,777
TRUenergy : Eildon Pondage Hydro Generating System*	VIC	14,781	3,998	6,883	6,721	4,545	0	36,928
TRUenergy : Lake Glenmaggie Dam Hydro Generating System*	VIC	5,287	714	6,289	6,278	2,650	0	21,218
TRUenergy : Lake William Hovell Dam Hydro Generating System*	VIC	3,373	3,971	3,567	4,038	1,485	0	16,434
TRUenergy : Thomson Dam Hydro Generating System*	VIC	23,636	7	369	0	0	0	24,012
TXU Electricity Ltd: Blue Rock Dam Hydro Generating System*	VIC	14,296	0	0	0	0	0	14,296
TXU Electricity Ltd: Cardinia Dam Hydro Generating System*	VIC	32,801	0	0	0	0	0	32,801
TXU Electricity Ltd: Eildon Pondage Hydro Generating System*	VIC	24,168	0	0	0	0	0	24,168
TXU Electricity Ltd: Lake Glenmaggie Dam Hydro Generating System*	VIC	14,361	0	0	0	0	0	14,361
TXU Electricity Ltd: Lake William Hovell Generating System*	VIC	8,354	0	0	0	0	0	8,354
TXU Electricity Ltd: Thomson Dam Hydro Generating System*	VIC	25,334	0	0	0	0	0	25,334

Table B.15 Category A: Landfill gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Electricity Ltd: Broadmeadows Landfill Gas Power Plant*	VIC	509,564	0	0	0	0	0	509,564
AGL Sales : Broadmeadows LFG Generating System*	VIC	17,669	114,898	115,218	115,538	59,739	0	423,062
AGL Sales : Clayton & Springvale LFG Generating System*	VIC	1,531,751	370,801	373,618	374,655	179,163	0	2,829,988
AGL South Australia : Highbury LFG Generating System*	SA	129,580	23,508	16,028	17,655	7,642	0	194,413
AGL South Australia : Pedler Creek LFG Generating System*	SA	243,162	61,126	52,855	53,002	36,409	0	446,554
AGL South Australia : Tea Tree Gully LFG Generating System*	SA	100,177	17,472	13,504	13,023	6,088	0	150,264
AGL South Australia : Wingfield 1 & 2 LFG Generating System*	SA	461,870	116,105	100,395	100,674	97,893	0	876,937
Ausgrid: Belrose Power Station	NSW	118,473	37,455	38,355	38,420	18,467	0	251,170
Ausgrid: Lucas Heights 1 Generating System	NSW	468,914	117,897	101,938	102,226	85,330	0	876,305
EDL LFG (NSW) : Lucas Heights 1 LFG Generating System	NSW	162,817	66,117	76,332	67,801	0	0	373,067
EDL LFG (Qld) : Brown Plains LFG Generating System	QLD	172,482	42,830	36,700	38,106	19,167	0	309,285
EDL LFG (SA) : Wingfield 1 & 2 LFG Generating System	SA	535,668	123,845	108,233	96,853	0	0	864,599
EDL LFG (Vic) : Berwick LFG Generating System	VIC	79,644	40,136	40,797	52,317	0	0	212,894
EDL LFG (Vic) : Broadmeadows LFG Generating System	VIC	45,778	11,648	9,136	6,063	0	0	72,625
EDL LFG (Vic) : Corio LFG Generating System	VIC	39,602	7,634	8,331	11,433	0	0	67,000
EDL LFG (Vic) : Corio LFG Generating System - Deemed Retailer	VIC	50,672	24,892	21,635	21,635	18,318	0	137,152
EDL Operations (Berwick) : Berwick LFG Generating System*	VIC	33,893	0	0	0	0	0	33,893
EDL Operations (Broadmeadows) : Broadmeadows LFG Generating System*	VIC	24,209	0	0	0	0	0	24,209
EDL Operations (Corio) : Corio LFG Generating System - Deemed Retailer*	VIC	48,541	0	0	0	0	0	48,541
EDL Operations (Corio) : Corio LFG Generating System*	VIC	12,324	0	0	0	0	0	12,324
EDL Operations (Pedler Creek) : Pedler Creek LFG Generating System	SA	39,105	12,838	19,449	17,048	0	0	88,440
TRUenergy : Berwick LFG Generating System*	VIC	148,893	95,489	95,755	96,020	72,308	0	508,465
TXU Electricity Ltd: Berwick LFG Generating System*	VIC	267,758	0	0	0	0	0	267,758

Table B.16 Category B: Coal

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Delta Electricity: Mt Piper Generating System	NSW	270,762	116,886	85,469	0	56,462	0	529,579
Delta Electricity: Munmorah Generating System	NSW	4,516	0	0	0	0	0	4,516
Delta Electricity: Vales Point Generating System	NSW	280,906	20,072	3,104	3,625	570	0	308,277
Delta Electricity: Wallerawang Generating System	NSW	108,132	8,930	60,951	54,940	27,629	0	260,582
Eraring Energy: Eraring Generating System	NSW	387,208	67,264	97,987	96,502	159,585	0	808,546
Macquarie Generation: Liddell Power Station	NSW	984,445	571,472	547,348	407,076	156,966	93,784	2,761,091
Redbank Project : Redbank Power Greenhouse Gas Abatement Program*	NSW	0	0	0	0	0	0	0

Table B.17 Category C: Biomass

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Rocky Point Power Project : Rocky Point Cogeneration Plant	QLD	0	364,190	377,617	443,488	451,121	176,961	1,813,377

Table B.18 Category C: Landfill gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
EDL Operations (Lucas Heights) : Lucas Heights 1 LFG Generating System*	NSW	31,571	0	0	0	0	0	31,571

Table B.19 Category C: Coal

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
CS Energy Ltd: Swanbank B Power Station*	QLD	0	145,162	145,437	106,916	129,937	71,101	598,553
Flinders Operating Services : Northern Power Station	SA	31,899	22,862	68,649	0	0	0	123,410
Hazelwood Power: Hazelwood Power Station	VIC	1,838,448	879,398	1,025,716	982,659	1,173,639	800,000	6,699,860
IPM Australia Ltd: Loy Yang B Power Station	VIC	6,775	216,723	286,826	258,325	279,115	300,000	1,347,764
Loy Yang Marketing Management Company : Loy Yang A Power Station	VIC	340,560	0	0	66,755	70,873	0	478,188
Stanwell Corporation Limited: Stanwell Power Station	QLD	320,721	194,665	193,943	196,928	213,030	0	1,119,287
Stanwell Corporation Limited: Swanbank B Power Station	QLD	0	0	0	0	0	0	0
TRUenergy Yallourn : Yallourn W Power Station	VIC	173,456	18,004	142,380	285,595	380,040	414,993	1,414,468

Table B.20 Category C: Hydro

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Hydro Electric Corporation: Gordon Hydro Generating System	TAS	80,000	0	0	0	0	0	80,000
Hydro Electric Corporation: Poatina Hydro Generating System	TAS	0	0	0	0	0	0	0

Table B.21 Category C: Natural gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Hydro Partnership: Oakey Power Station	QLD	0	0	0	0	0	0	0
AGL Hydro Partnership: Torrens Island A Power Station	SA	0	1,287	8,595	0	24,957	23,767	58,606
AGL Hydro Partnership: Torrens Island B Power Station	SA	0	40,701	0	0	0	0	40,701
Alinta DEBO : Bairnsdale Generating System*	VIC	29,689	125,309	69,314	0	0	0	224,312
Aurora Energy (Tamar Valley) : Bairnsdale Power Station	VIC	0	0	0	12,466	13,133	3,981	29,580
Bell Bay Power : Bell Bay Power Station Units 1 and 2*	TAS	140,271	355,276	369,298	84,925	0	0	949,770
Enertrade: Oakey Power Station*	QLD	3,563	0	0	0	0	0	3,563
Enertrade: Townsville Power Station*	QLD	8,451	0	0	0	0	0	8,451
OneSteel Manufacturing : OneSteel Whyalla Steelworks - By-product Turbines	SA	0	58,834	62,047	38,381	16,085	0	175,347
OneSteel Manufacturing : OneSteel Whyalla Steelworks - Cogeneration	SA	0	0	0	0	0	0	0
Origin Energy Electricity Ltd: Ladbroke Grove Power Station	SA	33,197	33,954	55,372	59,861	0	0	182,384
Pelican Point Power Ltd: Pelican Point Power Station	SA	1,025,915	986,020	1,114,978	1,064,299	971,351	775,000	5,937,563
TRUenergy : Newport Power Station	VIC	24,895	347,888	208,263	140,236	0	0	721,282
TRUenergy : Torrens Island A Power Station*	SA	0	0	0	0	0	0	0
TRUenergy : Torrens Island B Power Station*	SA	70,642	0	0	0	0	0	70,642

Table B.22 Category C: Sewage gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Energy Sales & Marketing Ltd: Werribee Sewage Gas Generating System	VIC	403,876	196,181	179,509	193,274	202,679	231,000	1,406,519

Table B.23 Category D: Biomass

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Diamond Energy : Shepparton Biogas Generating System	VIC	0	0	556	11,642	3,895	4,058	20,151
Diamond Energy : Tatura Biogas Generating System	VIC	0	11,731	14,479	8,113	11,658	3,848	49,829
EarthPower Technologies Sydney : Camellia Bio-Digester Generating System	NSW	69,785	28,242	21,621	21,981	26,264	13,254	181,147
Green Pacific Energy Stapylton No.1 : Stapylton No.1 Generating System	QLD	5,370	0	0	0	0	0	5,370
Integrated Forest Products : Hume ACT Cogeneration Plant (Future Project)*	ACT	0	0	0	0	0	0	0
Visy Pulp & Paper : Tumut Cogeneration Generating System	NSW	2,049	589	1,642	561	0	0	4,841

Table B.24 Category D: Coal

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
CS Energy Ltd: Kogan Creek Power Station	QLD	0	0	70,001	7,026	153,289	120,722	351,038
Millmerran Energy Trader : Millmerran Power Station	QLD	245,545	94,889	163,269	166,457	238,059	0	908,219
Queensland Alumina Limited: Additional Steam from Cogeneration	QLD	0	0	0	0	0	0	0
Stanwell Corporation Limited: Tarong North Power Station	QLD	0	0	0	0	0	0	0
Tarong Energy Corporation Ltd: Tarong North Power Station*	QLD	236,254	0	176,158	130,828	184,691	96,302	824,233

Table B.25 Category D: Coal seam methane

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Arrow (Generation) : Daandine Power Station	NSW	0	12,978	29,744	16,575	5,351	4,816	69,464
QGC Sales Qld : Condamine Power Station	QLD	0	0	0	0	11,177	0	11,177
RTA Yarwun : Yarwun 2 Cogeneration	QLD	0	0	0	0	360,386	0	360,386

Table B.26 Category D: Landfill gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Energy Services : Glenorchy LFG Generating System	TAS	18,333	39,992	0	31,259	27,525	18,885	135,994
AGL Energy Services : Hobart LFG Generating System	TAS	23,423	29,308	0	21,924	21,092	13,634	109,381
AGL Energy Services : Kincumber LFG Generating System	NSW	0	0	0	27,630	28,447	16,804	72,881
AGL Energy Services : West Nowra LFG Generating System	NSW	91,797	33,791	0	19,291	23,143	19,895	187,917
AGL Energy Services : Woy Woy LFG Generating System	NSW	0	0	0	26,291	23,938	18,284	68,513
Boral Recycling : Landfill Gas to Energy Facility, Deer Park	VIC	25,243	26,258	54,653	74,447	81,758	95,661	358,020
EDL LFG (ACT) : Belconnen LFG Generating System	ACT	122,040	25,256	21,008	21,373	19,803	4,937	214,417
EDL LFG (ACT) : Mugga Lane LFG Generating System	ACT	307,919	95,720	102,242	101,098	101,197	20,498	728,674
EDL LFG (NSW) : Grange Avenue LFG Generating System	NSW	1,953	34,633	35,935	33,196	35,943	27,848	169,508
EDL LFG (NSW) : Lucas Heights 2 LFG Generating System	NSW	1,820,235	501,786	442,028	499,224	473,093	143,129	3,879,495
EDL LFG (Qld) : Roghan Road LFG Generating System	QLD	61,512	14,230	16,618	17,851	13,707	3,117	127,035
EDL LFG (Vic) : Brooklyn LFG Generating System	VIC	182,727	78,728	87,477	76,720	81,042	75,150	581,844
EDL Operations (Brooklyn) : Brooklyn LFG Generating System*	VIC	61,262	0	0	0	0	0	61,262
EDL Operations (Eastern Creek) : Eastern Creek LFG Generating System	NSW	493,730	146,542	138,996	154,642	110,839	79,215	1,123,964
EDL Operations (Eastern Creek) : Jacks Gully LFG Generating System	NSW	147,656	70,141	75,309	77,533	77,265	56,401	504,305
Energy Impact : Molendinar LFG Generating System	QLD	46,366	7,562	5,200	3,026	3,384	3,951	69,489
Energy Impact : Mornington LFG Generating System*	VIC	53,996	18,210	12,804	11,372	8,299	7,500	112,181
Energy Impact : Reedy Creek LFG Generating System*	QLD	7,257	0	0	0	0	0	7,257
Energy Impact : Sleemans Sports Centre LFG Cogeneration System	QLD	0	0	9,789	7,160	7,767	4,417	29,133
Energy Impact : Stapylton LFG Generating System	QLD	91,609	31,578	18,488	37,324	43,108	22,031	244,138
Energy Impact : Suntown LFG Generating System	QLD	158,969	29,853	20,429	8,513	13,766	29,769	261,299
Energy Impact : Wyndham LFG Generating System*	VIC	84,588	21,926	17,515	10,932	14,246	16,968	166,175
LMS Energy : Albury Renewable Energy Facility (Future project)	NSW	0	0	0	0	0	0	0
LMS Energy : Awaba Renewable Energy Facility	NSW	0	30,061	34,745	34,104	30,583	34,178	163,671
LMS Energy : Ballarat Renewable Energy Facility	VIC	0	0	14,525	16,148	17,025	18,727	66,425
LMS Energy : Bendigo Renewable Energy Facility	VIC	0	0	8,293	19,041	18,773	21,167	67,274
LMS Energy : Birkdale Renewable Energy Facility	QLD	0	0	0	0	16,479	24,445	40,924
LMS Energy : Drysdale Renewable Energy Facility (Future project)	VIC	0	0	0	0	0	0	0

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
LMS Energy : Eastern Creek 2 Gas Utilisation Facility	NSW	0	0	129,429	238,451	218,937	199,854	786,671
LMS Energy : Hallam Road Renewable Energy Facility	NSW	0	29,241	53,354	83,921	117,642	155,252	439,410
LMS Energy : Mornington Renewable Energy Facility	VIC	0	0	0	0	0	5,649	5,649
LMS Energy : Remount Renewable Energy Facility	TAS	0	34,074	35,409	39,794	75,269	71,595	256,141
LMS Energy : Rochedale Renewable Energy Facility	QLD	259,500	123,800	104,050	106,048	126,421	141,143	860,962
LMS Energy : Shepparton Renewable Energy Facility	VIC	0	0	0	11,538	19,127	20,705	51,370
LMS Energy : Summer Hill Renewable Energy Facility	NSW	0	0	0	26,288	64,440	70,311	161,039
LMS Energy : Tweed Renewable Energy Facility	NSW	7,861	11,355	11,631	11,668	11,680	11,307	65,502
LMS Energy : Whitwood Road Renewable Energy Facility	QLD	93,683	40,616	34,260	33,973	33,806	31,434	267,772
LMS Energy : Wollert Renewable Energy Facility	VIC	31,560	70,520	110,322	123,583	148,685	160,694	645,364
LMS Energy : Wyndham Renewable Energy Facility	VIC	0	0	0	0	0	10,833	10,833
LMS Energy : Wyong Renewable Energy Facility	NSW	0	0	0	0	1,887	38,025	39,912
Veolia Environmental Services (Australia) : Ti Tree LFG	QLD	0	0	0	26,942	56,665	43,828	127,435
Woodlawn Bioreactor Energy : Woodlawn Bioreactor	NSW	0	0	17,755	48,117	62,961	68,764	197,597

Table B.27 Category D: Natural gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Energy Services (Queensland) : Moranbah Generating System*	QLD	970	0	0	0	0	0	970
AGL Energy Services : Symex Cogeneration System	VIC	2,907	12,267	12,883	12,237	12,072	13,221	65,587
AGL Hydro Partnership: Somerton Power Station	VIC	0	882	25,074	15,444	12,870	9,913	64,183
AGL South Australia : Coopers Brewery Cogeneration Generating System	SA	25,831	6,457	6,793	8,350	7,658	7,887	62,976
Alinta EATM : Tamar Valley Power Station*	TAS	0	436	6,500	0	0	0	6,936
Aurora Energy (Tamar Valley) : Bell Bay Three Power Station	TAS	0	0	0	14,381	12,155	6,997	33,533
Aurora Energy (Tamar Valley) : Tamar Valley Combined Cycle Power Station	TAS	0	0	0	218,278	628,617	751,911	1,598,806
Aurora Energy (Tamar Valley) : Tamar Valley Peaking Power Station	TAS	0	0	0	30,800	5,063	7,560	43,423
Bell Bay Power : Bell Bay Three*	TAS	3,365	0	0	0	0	0	3,365
Braemar Power Project : Braemar Power Station	QLD	0	0	68,099	105,262	144,057	144,057	461,475
CS Energy Ltd: Swanbank E Power Station*	QLD	730,252	84,336	121,715	495,639	1,065,171	591,230	3,088,343
Delta Electricity: Colongra Power Station	NSW	0	0	0	3,763	11,862	0	15,625
GridX Power : GridX MiniGrid Cogeneration - Glenfield GEN*	NSW	0	3	0	0	0	0	3
Narrabri Power : Wilga Park Power Station	NSW	31,135	1,689	1,243	552	0	0	34,619
NewGen Braemar 2 Partnership: Braemar 2 Power Station	QLD	0	0	0	37,520	89,284	90,914	217,718
NewGen Power : Braemar Power Station*	QLD	0	84,162	62,809	0	0	0	146,971
Origin Energy Electricity Ltd: Darling Downs Power Station	QLD	0	0	0	0	1,145,450	398,949	1,544,399
Origin Energy Electricity Ltd: Mortlake Power Station	VIC	0	0	0	0	0	0	0
Origin Energy Electricity Ltd: Quarantine Power Station	SA	54,088	16,362	20,212	51,830	54,688	27,196	224,376
Origin Energy Electricity Ltd: Spring Gully Power Station	QLD	0	0	0	0	0	0	0
Origin Energy Electricity Ltd: Uranquinty Power Station	NSW	0	0	8,773	71,829	96,494	67,902	244,998
Snowy Hydro Ltd: Laverton North Generating System	VIC	101	139,280	41,537	30,600	55,450	0	266,968
Snowy Hydro Ltd: Valley Power Generating System	VIC	0	53,231	12,776	9,311	3,666	0	78,984
Stanwell Corporation Limited: Swanbank E Power Station	QLD	0	0	0	0	0	0	0
TRUenergy Tallawarra : Tallawarra Power Station Unit 1	NSW	0	0	52,220	1,051,999	1,482,566	1,317,251	3,904,036
Waste Recycling and Processing (WSN): Ecolibrium Mixed Waste Fac. (Gen)*	NSW	0	0	0	0	0	0	0

Table B.28 Category D: Sewage gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Ausgrid: QAF Power Project - Generating System (Generation)*	NSW	0	0	0	0	0	0	0
Sydney Water Corporation: Bondi STP Cogeneration Plant (Generation)	NSW	0	0	0	4,173	3,036	5,561	12,770

Table B.29 Category D: Waste coal mine gas

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
BlueScope Steel (AIS) : Steelworks Generation Project (Generation)	NSW	0	0	0	0	0	0	0
EDL CSM (Qld) : German Creek CMM Generating System	QLD	125,535	995,634	721,693	827,021	849,373	723,004	4,242,260
EDL Projects (Australia) : Moranbah North CMM Generating System	QLD	0	0	128,205	1,104,273	1,187,310	913,859	3,333,647
Enertrade: Moranbah Power Generation Facility*	QLD	0	0	0	0	0	0	0
Envirogen (Oak) : Bulga WCMG Power Station (Future Project)	NSW	0	0	0	0	0	0	0
Envirogen (Oak) : Glennies Creek WCMG Generating System	NSW	0	18,343	104,335	203,449	259,920	300,168	886,215
Envirogen : Oak Creek WCMG Generating System	QLD	181,362	470,927	441,661	480,673	542,698	466,828	2,584,149
Essential Energy: Tahmoor Power Station (Generation)	NSW	50,716	3,073	47	500	1,373	7	55,716
Essential Energy: Teralba Power Station	NSW	639,995	179,111	137,033	113,210	78,944	77,816	1,226,109
Transfield Services (Australia) : Picardy Power Station (future project)*	QLD	0	0	0	0	0	0	0

B.3.2 DSA Rule certificate creation by calculation method and project

Table B.30 Default Abatement Factors Method

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
AGL Electricity Ltd: Gas Hot Water Systems - ACT*	ACT	1,460	0	0	0	-	-	1,460
AGL Electricity Ltd: Gas Hot Water Systems - NSW*	NSW	51,632	0	0	0	-	-	51,632
AGL Hydro Partnership: Gas Hot Water Systems Project - ACT*	ACT	5,400	7,320	1,660	1,300	-	-	15,680
AGL Hydro Partnership: Gas Hot Water Systems Project - NSW*	NSW	24,340	21,900	25,569	13,639	-	-	85,448
Alliance Network International: DRIP - Commercial installations in ACT*	ACT	0	0	7,089	0	-	-	7,089
Alliance Network International: DRIP - Commercial installations in NSW*	NSW	0	150,731	163,178	0	-	-	313,909
Alliance Network International: DRIP - Residential installations in ACT*	ACT	0	1,758	6,762	0	-	-	8,520
Alliance Network International: DRIP - Residential installations in NSW*	NSW	0	525,146	2,520,371	0	-	-	3,045,517
AMRS (Aust) : Energy Efficiency Refit Program - Commercial ACT*	ACT	0	0	0	0	-	-	0
AMRS (Aust) : Energy Efficiency Refit Program - Commercial NSW*	NSW	0	0	0	0	-	-	0
AMRS (Aust) : Energy Efficiency Refit Program - Residential ACT*	ACT	0	0	0	0	-	-	0
AMRS (Aust) : Energy Efficiency Refit Program - Residential NSW*	NSW	0	0	0	0	-	-	0
APP Corporation : Pilot DOH Residential Energy Efficiency Program*	NSW	0	0	0	0	-	-	0
Ausgrid: Commercial Premises in ACT*	ACT	0	0	0	0	-	-	0
Ausgrid: Commercial Premises in NSW*	NSW	0	0	0	0	-	-	0
Ausgrid: Compact Fluorescent Lamp Promotion - ACT*	ACT	29,755	5,835	271	0	-	-	35,861
Ausgrid: Compact Fluorescent Lamp Promotion - NSW*	NSW	1,441,887	47,258	47,569	0	-	-	1,536,714
Ausgrid: Electric to Gas Hot Water Conversion - ACT Com*	ACT	0	0	0	0	-	-	0
Ausgrid: Electric to Gas Hot Water Conversion - ACT Res*	ACT	0	0	0	0	-	-	0
Ausgrid: Electric to Gas Hot Water Conversion - NSW Com*	NSW	0	0	0	0	-	-	0
Ausgrid: Electric to Gas Hot Water Conversion - NSW Res*	NSW	160	2,980	100	460	-	-	3,700
Ausgrid: EnergySave On Line Shop - ACT*	ACT	0	0	0	0	-	-	0
Ausgrid: EnergySave On Line Shop - NSW*	NSW	3,798	212	0	0	-	-	4,010
Ausgrid: Residential Households in ACT*	ACT	0	0	0	0	-	-	0
Ausgrid: Residential Households in NSW*	NSW	75,656	25,215	91,421	0	-	-	192,292

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Ausgrid: Spare Fridge Retirement Program*	NSW	8,016	0	0	0	-	-	8,016
Australian Heating Solutions : Installation of CFLs & flow restrictors - Comm*	ACT	0	0	0	0	-	-	0
Australian Heating Solutions : Installation of CFLs & flow restrictors - Res*	ACT	0	0	0	0	-	-	0
Australian Heating Solutions : Installation of CFLs & flow restrictors - Comm*	NSW	0	22,103	8,145	0	-	-	30,248
Australian Heating Solutions : Installation of CFLs & flow restrictors - Res*	NSW	9,728	144,884	56,712	0	-	-	211,324
Australian Heating Solutions : NSW Electric to Gas Hotwater Upgrade*	NSW	4,480	2,280	2,040	180	-	-	8,980
Big Switch Projects: Installation of CFLs - NSW Residential*	NSW	0	0	0	0	-	-	0
Big Switch Projects: Installation of Gas Hot Water Systems - NSW Res*	NSW	0	0	0	0	-	-	0
Big Switch Projects: Sales of CFLs and Showerheads - NSW Res*	NSW	0	0	0	0	-	-	0
Biogy : Electricity to Gas Hot Water Initiative*	NSW	16,900	9,600	2,760	0	-	-	29,260
BTU Holdings Australia : Replacing electric with gas hot water systems*	NSW	60	0	0	0	-	-	60
Carbon Reduction Institute : Giveaway/Sale of CFLs and Showerheads*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Giveaway/Sale of CFLs and Showerheads *	NSW	0	29	0	0	-	-	29
Carbon Reduction Institute : Installation of CFLs - Commercial*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of CFLs - Residential*	ACT	0	248	46	0	-	-	294
Carbon Reduction Institute : Installation of CFLs - Commercial*	NSW	0	11,147	0	0	-	-	11,147
Carbon Reduction Institute : Installation of CFLs - Residential*	NSW	0	7,914	63,593	0	-	-	71,507
Carbon Reduction Institute : Installation of Gas Boosted Solar HWS - Com*	NSW	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Boosted Solar HWS - Res*	NSW	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Boosted Solar HWS - Com*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Boosted Solar HWS - Res*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Hot Water Systems - Com*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Hot Water Systems - Res*	ACT	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Hot Water Systems - Com*	NSW	0	0	0	0	-	-	0
Carbon Reduction Institute : Installation of Gas Hot Water Systems - Res*	NSW	0	0	0	0	-	-	0
Demand Manager : Carbon Saver Project - ACT*	ACT	0	0	0	0	-	-	0
Demand Manager : Carbon Saver Project - NSW*	NSW	0	0	9,534	0	-	-	9,534
Easy Being Green : Lighten Your Load NSW - ACT Commercial*	ACT	0	700	0	0	-	-	700
Easy Being Green : Lighten Your Load NSW - ACT Residential*	ACT	43,198	0	0	0	-	-	43,198
Easy Being Green : Lighten Your Load NSW - NSW Commercial*	NSW	0	95,496	0	0	-	-	95,496

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Easy Being Green : Lighten Your Load NSW - NSW Residential*	NSW	2,694,658	1,112,399	434,565	0	-	-	4,241,622
Easy Being Green Holdings : Lighten Your Load*	NSW	317,154	0	0	0	-	-	317,154
EcoSmart Programs : EcoSmart Living Program Pilot - Western Sydney*	NSW	2,348	5,864	0	0	-	-	8,212
Endeavour Energy: Give-Away of CFLs and Showerheads*	NSW	0	5,195	0	813	-	-	6,008
Endeavour Energy: Home Lighting Efficiency Program*	NSW	113,297	0	0	0	-	-	113,297
Endeavour Energy: Installation of CFLs*	NSW	0	4,687	0	105	-	-	4,792
Envirocare & Savers t/a Wellbeinggreen: Light Bulb & Flow Restrictor Instal*	NSW	0	0	0	20,447	-	-	20,447
Essential Energy: Countrygreen Gas Hot Water Replacement*	NSW	0	0	0	0	-	-	0
Essential Energy: Countrygreen Town Energy Efficiency Program*	NSW	0	0	0	0	-	-	0
Fieldforce Services : Give Away to Reduce Demand Program - ACT*	ACT	79,964	34,658	0	0	-	-	114,622
Fieldforce Services : Give Away to Reduce Demand Program - NSW*	NSW	1,331,288	305,815	0	0	-	-	1,637,103
Fieldforce Services : Retrofit Program - Commercial ACT*	ACT	0	20,299	2,388	0	-	-	22,687
Fieldforce Services : Retrofit Program - Commercial NSW*	NSW	0	314,501	425,876	0	-	-	740,377
Fieldforce Services : Retrofit Program - Residential ACT*	ACT	0	262,340	123,885	0	-	-	386,225
Fieldforce Services : Retrofit Program - Residential NSW*	NSW	0	4,609,421	1,926,587	0	-	-	6,536,008
Go Green Today : Free Energy Saving Offer*	NSW	0	0	0	0	-	-	0
Koala Lamps : Compact Lamp Supply to end users*	NSW	35,170	19,982	18,762	0	-	-	73,914
Low Energy Supplies & Services : Direct Sales & Giveaways - Commercial*	ACT	0	7,042	0	0	-	-	7,042
Low Energy Supplies & Services : Direct Sales & Giveaways - Residential*	ACT	3,506	275	0	0	-	-	3,781
Low Energy Supplies & Services : Direct Sales & Giveaways - Commercial*	NSW	0	144,258	45,499	0	-	-	189,757
Low Energy Supplies & Services : Direct Sales & Giveaways - Residential*	NSW	1,352,892	486,465	953,246	0	-	-	2,792,603
Low Energy Supplies and Services : Project #1/2003*	NSW	30,455	0	0	0	-	-	30,455
Macquarie Generation: Staff CFL Issue Scheme*	NSW	1,310	0	0	0	-	-	1,310
Murray Regional Development Board: Murray Energy Savings Program*	NSW	0	5,148	31,328	10,661	-	-	47,137
Neco Group : Showerheads and CFL Globe Sales - ACT Commercial*	ACT	0	0	0	0	-	-	0
Neco Group : Showerheads and CFL Globe Sales - ACT Residential*	ACT	0	0	0	0	-	-	0
Neco Group : Showerheads and CFL Globe Sales - NSW Commercial*	NSW	0	0	0	0	-	-	0
Neco Group : Showerheads and CFL Globe Sales - NSW Residential*	NSW	0	0	0	0	-	-	0
Neco Hardware : Showerheads & CFL Globe Sales - ACT Commercial*	ACT	0	14,836	0	0	-	-	14,836
Neco Hardware : Showerheads & CFL Globe Sales - AT Residential*	ACT	22,788	75,402	0	0	-	-	98,190

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Neco Hardware : Showerheads & CFL Globe Sales - NSW Commercial*	NSW	0	5,938	0	0	-	-	5,938
Neco Hardware : Showerheads & CFL Globe Sales - NSW Residential*	NSW	621,616	250,484	0	0	-	-	872,100
Neco Holdings : Showerheads and CFL Globe Sales - ACT Commercial*	ACT	0	0	0	0	-	-	0
Neco Holdings : Showerheads and CFL Globe Sales - ACT Residential*	ACT	0	0	0	0	-	-	0
Neco Holdings : Showerheads and CFL Globe Sales - NSW Commercial*	NSW	0	0	0	0	-	-	0
Neco Holdings : Showerheads and CFL Globe Sales - NSW Residential*	NSW	0	0	113	0	-	-	113
Neco Lifestyles: Showerheads & CFL Globes web sales*	NSW	53,640	0	0	0	-	-	53,640
Next Energy : Fridge Buyback Program*	NSW	11,743	21,400	17,256	29,685	-	-	80,084
Origin Energy Electricity Ltd: CFL Giveaway*	NSW	690,960	0	0	0	-	-	690,960
Origin Energy Electricity Ltd: LPG Boosted Hot Water Systems - ACT*	ACT	0	0	0	0	-	-	0
Origin Energy Electricity Ltd: LPG Boosted Hot Water Systems - NSW*	NSW	0	0	0	0	-	-	0
Philips Electronics Australia Limited: Light Globe Replacement - ACT*	ACT	26	10,366	0	0	-	-	10,392
Philips Electronics Australia Limited: Light Globe Replacement - NSW*	NSW	63,550	116,058	0	0	-	-	179,608
Rheem Australia : Rheem Gas Hot Water - ACT*	ACT	120	260	60	20	-	-	460
Rheem Australia : Rheem Gas Hot Water - NSW*	NSW	2,120	4,420	8,080	2,140	-	-	16,760
SkyNet Systems : Installation of CFLs - ACT Commercial*	ACT	0	0	0	0	-	-	0
SkyNet Systems : Installation of CFLs - ACT Residential*	ACT	0	0	327	0	-	-	327
SkyNet Systems : Installation of CFLs - NSW Commercial*	NSW	0	0	1,179	0	-	-	1,179
SkyNet Systems : Installation of CFLs - NSW Residential*	NSW	0	0	28,106	0	-	-	28,106
Sydney Water Corporation: DIY Water Saving Kit Program*	NSW	58,628	57,401	20,561	3,054	-	-	139,644
Sydney Water Corporation: Residential Shower Retrofit Programme*	NSW	479,937	126,104	40,148	6,572	-	-	652,761
Sydney Water Corporation: Washing Machine Rebate Program*	NSW	39,237	91,494	103,051	27,615	-	-	261,397
Watts Green : AAA Energy Efficiency Refit Program - ACT Commercial*	ACT	0	0	0	0	-	-	0
Watts Green : AAA Energy Efficiency Refit Program - ACT Residential*	ACT	0	0	0	0	-	-	0
Watts Green : AAA Energy Efficiency Refit Program - NSW Commercial*	NSW	0	0	75,055	0	-	-	75,055
Watts Green : AAA Energy Efficiency Refit Program - NSW Residential*	NSW	0	5,000	112,626	0	-	-	117,626

Table B.31 Generation Emissions Method

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Ausgrid: QAF Power Project (DSA)*	NSW	0	0	0	0	0	0	0
BlueScope Steel (AIS) : Steelworks Generation Project (DSA) (Future Project)	NSW	0	0	0	0	0	0	0
Endeavour Coal Pty. Ltd: WestVAMP	NSW	0	168,755	210,643	144,042	202,473	226,100	952,013
Essential Energy: Tahmoor Power Station (DSA)	NSW	602,858	148,960	61,039	65,584	86,333	90,120	1,054,894
GridX Power : GridX MiniGrid Cogeneration - Glenfield DSA*	NSW	0	9	10	0	0	0	19
Macquarie University: Macquarie University Library Cogeneration Plant	NSW	0	0	0	135	0	0	135
Sydney Water Corporation: Bondi STP Cogeneration Plant (DSA)	NSW	0	0	0	12,183	27,201	27,002	66,386
Sydney Water Corporation: Cronulla STP Cogeneration Plant	NSW	14,405	926	5,349	6,336	8,577	10,197	45,790
Sydney Water Corporation: Glenfield STP Cogeneration Plant	NSW	0	0	0	724	11,844	13,549	26,117
Sydney Water Corporation: Liverpool STP Cogeneration Plant	NSW	0	0	0	1,577	7,910	8,415	17,902
Sydney Water Corporation: Malabar STP Cogeneration Plant	NSW	211,766	41,063	62,938	60,056	68,034	61,334	505,191
Sydney Water Corporation: North Head Cogeneration Plant	NSW	0	0	20,804	19,484	30,852	28,777	99,917
Sydney Water Corporation: North Head STP Hydro Generating System	NSW	0	0	0	0	6,859	6,521	13,380
Sydney Water Corporation: Warriewood STP Cogeneration Plant	NSW	0	0	0	474	4,074	3,377	7,925
Sydney Water Corporation: Wollongong STP Cogeneration Plant	NSW	0	0	0	3,702	8,970	10,670	23,342
Visy Pulp & Paper : Tumut On-site Cogeneration Plant	NSW	658,245	204,491	212,990	204,242	221,571	245,902	1,747,441
Waste Recycling and Processing (WSN): Ecolibrium Mixed Waste Fac. (DSA)*	NSW	0	0	0	0	0	0	0
Western Sydney Local Health District: Energy Performance Contract and GEEIP	NSW	0	0	0	0	5,348	0	5,348

Table B.32 Metered Baseline Method – baseline per unit of output

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Carter Holt Harvey Australia : Refiner Control*	NSW	8,065	14,249	16,007	6,231	-	-	44,552
Hydro Aluminium Kurri Kurri : Smelter upgrade and retrofit*	NSW	22,623	40,439	40,038	44,260	-	-	147,360
Orica Australia : Botany Chlorine Plant*	NSW	84,294	25,335	23,614	12,082	-	-	145,325

Table B.33 Metered Baseline Method – baseline unaffected by output

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Sutherland Shire Council: Sutherland Leisure Centre EPC*	NSW	393	0	0	0	-	-	393
Western Sydney Local Health District: EPC and GEEIP*	NSW	11,319	6,111	5,997	4,122	-	-	27,549

Table B.34 Metered Baseline Method – normalised by NABERS scheme

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Charter Hall Asset Services Limited: Building Energy Consumption Reduction*	NSW	4,734	6,223	7,501	4,504	-	-	22,962
Eureka Funds Management: Eureka ABGR Energy Efficiency Program*	NSW	0	0	0	0	-	-	0
Investa Properties Ltd: Office Buildings assessed using the ABGR*	ACT	133	121	84	44	-	-	382
Investa Properties Ltd: Office Buildings assessed using the ABGR*	NSW	26,262	11,237	10,393	6,109	-	-	54,001
Stockland Property Mgmt : ABGR Energy Monitoring and Modification*	ACT	4	38	436	0	-	-	478
Stockland Property Mgmt: ABGR Energy Monitoring and Modification*	NSW	165	3,073	2,838	0	-	-	6,076

Table B.35 Project Impact Assessment Method

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Amcor Ltd: Air conditioning timers (Regents Park)*	NSW	878	0	262	133	-	-	1,273
Amcor Ltd: Botany Mill Efficiency Initiatives*	NSW	709	0	3,420	1,655	-	-	5,784
Amcor Ltd: Lighting voltage reduction (Botany & Smithfield)*	NSW	731	0	217	110	-	-	1,058
Amcor Ltd: Skylight upgrade (Revesby)*	NSW	54	0	0	0	-	-	54
Amcor Ltd: Upgrade of blowers with conveyors (Revesby)*	NSW	1,458	0	436	220	-	-	2,114
Amcor Ltd: Upgrade of blowers with VSD conveyors (Revesby)*	NSW	448	0	121	61	-	-	630
Amcor Ltd: Upgrade of pumps with VSD units (Matraville)*	NSW	2,038	0	608	308	-	-	2,954
Ausgrid: Power Factor Correction*	NSW	5,038	0	0	0	-	-	5,038
Ausgrid: Residential Energy Efficiency Refit Pilot Program*	NSW	2,915	0	0	0	-	-	2,915
BOC Ltd: Port Kembla LMPC*	NSW	4,646	0	4,369	0	-	-	9,015
Boral Ltd: Berrima Kiln 6 Upgrade*	NSW	6,589	14,818	7,884	8,651	-	-	37,942
Commonwealth Bank of Australia: Branch network BMS upgrade*	NSW	1,284	544	523	259	-	-	2,610
Commonwealth Bank of Australia: Lighting controls*	NSW	1,280	524	533	270	-	-	2,607
Commonwealth Bank of Australia: Voltage reduction in branch network lighs*	NSW	1,572	607	548	268	-	-	2,995
Commonwealth Bank of Australia: VSD upgrade cooling fans condens. pump*	NSW	267	109	110	56	-	-	542
Continental Carbon Australia : Installation of VSD on boiler fan*	NSW	375	0	259	0	-	-	634
Demand Manager : Lighting Aggregation Project*	NSW	8,024	12,590	14,022	7,315	-	-	41,951
Demand Manager : PFC Aggregation Project*	ACT	0	0	0	0	-	-	0
Demand Manager : PFC Aggregation Project*	ACT	0	0	0	0	-	-	0
Demand Manager : PFC Aggregation Project*	NSW	0	1,650	325	0	-	-	1,975
Demand Manager : PFC Aggregation Project*	NSW	0	0	359	0	-	-	359
Demand Manager : PFC Aggregation Project*	NSW	0	1,865	0	0	-	-	1,865
Demand Manager : PFC Aggregation Project*	NSW	0	0	709	0	-	-	709
Illum-a-Lite : Fluorescent Lighting Energy Efficiency Project*	NSW	2,704	0	0	0	-	-	2,704
Manildra Starches : Spray dryer exhaust fan replacement at Manildra*	NSW	861	0	299	0	-	-	1,160
Merck Sharp & Dohme (Australia) : Lighting voltage reduction*	NSW	1,363	0	0	0	-	-	1,363
Norske Skog Paper Mills (Aust) Ltd: Deckers Feed Pump Bypass*	NSW	0	0	2,297	2,017	-	-	4,314
NSW Roads and Traffic Authority: Upgrade of Traffic Lights*	NSW	1,946	0	389	349	-	-	2,684

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Panthers Rugby League Club Ltd: Lighting upgrade at Panthers*	NSW	1,048	0	0	0	-	-	1,048
Rema Industries and Services : New air compressor installation*	NSW	1,145	789	0	0	-	-	1,934
Rheem Australia : Air compressor PLC control*	NSW	671	0	0	0	-	-	671
Riverina Wool Combing : Air conditioning timers*	NSW	222	0	0	0	-	-	222
South Tweed Bowls Club : Upgrade of lighting at South Tweed Bowls Club*	NSW	696	0	0	91	-	-	787
Stamford Hotels and Resorts : Airport Lamp Replacement*	NSW	254	0	0	0	-	-	254
Stamford Hotels and Resorts : Carbon Monoxide Monitor*	NSW	220	0	0	0	-	-	220
Stamford Hotels and Resorts : Circular Quay lighting upgrade*	NSW	169	0	0	0	-	-	169
Stamford Hotels and Resorts : Double Bay lamp replacement*	NSW	147	0	0	0	-	-	147
Stamford Hotels and Resorts : Lighting voltage reduction (Airport)*	NSW	99	0	0	0	-	-	99
Stamford Hotels and Resorts : North Ryde lighting upgrade*	NSW	108	0	0	0	-	-	108
State Records of New South Wales: Stage 2 lighting upgrade*	NSW	41	0	0	0	-	-	41
Sydney Harbour Marriott Hotel: Dimming control at Sydney Harbour Marriott*	NSW	31	0	0	0	-	-	31
The Sustainable Energy Dev. Auth.: AMCOR Botany - Project 03/012*	NSW	162	0	0	0	-	-	162
The Sustainable Energy Dev. Auth.: AMCOR Matraville - Project 03/002*	NSW	416	0	0	0	-	-	416
The Sustainable Energy Dev. Auth.: AMCOR Matraville - Project 03/003*	NSW	251	0	0	0	-	-	251
The Sustainable Energy Dev. Auth.: AMCOR Regents Park - Project 03/031*	NSW	359	0	0	0	-	-	359
The Sustainable Energy Dev. Auth.: AMCOR Revesby - Project 03/013*	NSW	161	0	0	0	-	-	161
The Sustainable Energy Dev. Auth.: AMCOR Revesby - Project 03/014*	NSW	124	0	0	0	-	-	124
The Sustainable Energy Dev. Auth.: AMCOR Revesby - Project 03/015*	NSW	615	0	0	0	-	-	615
The Sustainable Energy Dev. Auth.: AMCOR Smithfield - Project 03/001*	NSW	91	0	0	0	-	-	91
The Sustainable Energy Dev. Auth.: BOC - Port Kembla LMPC*	NSW	5,470	0	0	0	-	-	5,470
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/019*	NSW	138	0	0	0	-	-	138
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/020*	NSW	294	0	0	0	-	-	294
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/021*	NSW	266	0	0	0	-	-	266
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/022*	NSW	384	0	0	0	-	-	384
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/023*	NSW	287	0	0	0	-	-	287
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/024*	NSW	492	0	0	0	-	-	492
The Sustainable Energy Dev. Auth.: Colonial First State CBA - Project 03/033*	NSW	129	0	0	0	-	-	129
The Sustainable Energy Dev. Auth.: Continental Carbon - Project 03/016*	NSW	305	0	0	0	-	-	305

Name: Project name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
The Sustainable Energy Dev. Auth.: Marriott Hotel - Project 03/009*	NSW	332	0	0	0	-	-	332
The Sustainable Energy Dev. Auth.: Marriott Hotel - Project 03/010*	NSW	593	0	0	0	-	-	593
The Sustainable Energy Dev. Auth.: Marriott Hotel - Project 03/011*	NSW	70	0	0	0	-	-	70
The Sustainable Energy Dev. Auth.: Merck Sharp & Dohme - Project 03/017*	NSW	473	0	0	0	-	-	473
The Sustainable Energy Dev. Auth.: Mercure Hotel - Project 03/004*	NSW	83	0	0	0	-	-	83
The Sustainable Energy Dev. Auth.: Mercure Hotel - Project 03/005*	NSW	168	0	0	0	-	-	168
The Sustainable Energy Dev. Auth.: Mercure Hotel - Project 03/006*	NSW	149	0	0	0	-	-	149
The Sustainable Energy Dev. Auth.: Mercure Hotel - Project 03/008*	NSW	111	0	0	0	-	-	111
The Sustainable Energy Dev. Auth.: Phoenix Sports Club - Project 03/028*	NSW	483	0	0	0	-	-	483
The Sustainable Energy Dev. Auth.: Phoenix Sports Club - Project 03/029*	NSW	385	0	0	0	-	-	385
The Sustainable Energy Dev. Auth.: Rema Industries - Project 03/032*	NSW	1,002	0	0	0	-	-	1,002
The Sustainable Energy Dev. Auth.: SEDA Big W lighting project*	NSW	1,547	0	0	0	-	-	1,547
The Sustainable Energy Dev. Auth.: SEDA Telstra outside air economy cycle*	NSW	0	0	0	0	-	-	0
The Sustainable Energy Dev. Auth.: State Records Auth. NSW - Project 03/018*	NSW	138	0	0	0	-	-	138
The Sustainable Energy Dev. Auth.: Wests Leagues Club - Project 03/025*	NSW	130	0	0	0	-	-	130
The Sustainable Energy Dev. Auth.: Wests Leagues Club - Project 03/026*	NSW	286	0	0	0	-	-	286
The Sustainable Energy Dev. Auth.: Wests Leagues Club - Project 03/027*	NSW	882	0	0	0	-	-	882
Tomago Aluminium Company : Fume Treatment Centre VSD Project*	NSW	24,145	1,585	385	780	-	-	26,895
University of Technology Sydney: Building 2 Lighting Upgrade*	NSW	543	0	0	0	-	-	543
University of Wollongong: Occupancy sensors for lighting controls*	NSW	1,548	777	464	226	-	-	3,015
University of Wollongong: Voltage reduction for lighting control*	NSW	299	150	157	105	-	-	711
Visy Pulp & Paper : Cooling Water Pumps Efficiency Project*	NSW	525	629	1,841	320	-	-	3,315
Woolworths Ltd: Supermarket After Hours Lighting Controls*	NSW	66,735	17,262	18,221	9,140	-	-	111,358

B.3.3 CS Rule certificate creation by accreditation

Table B.36 CS Rule certificate creation by accreditation

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Australian Forest Corporation : The Rainforest Carbon Sink	NSW	0	0	0	0	0	0	0
Blue-Leafed Mallee Limited: Blue-Leafed Mallee Carbon Sequestration Pool	NSW	0	32	250	850	69,767	117,419	188,318
CO2 Australia Limited: CO2 Australia Carbon Sequestration Pool	NSW	146	759	2,842	11,230	22,885	30,532	68,394
Forestry Commission of NSW: Forests NSW Carbon Pool	NSW	1,291,707	630,303	660,382	600,264	596,822	0	3,779,478
Go-Gen Australia : Go-Gen Australia Carbon Sequestration Pool	NSW	0	0	0	0	0	0	0
Landcare CarbonSMART : Landcare CarbonSMART Carbon Sequestration Pool	NSW	0	0	0	0	0	0	0
Mallee Carbon Limited: Mallee Carbon Sequestration Pool	NSW	224	1,467	5,718	10,676	13,170	13,663	44,918

B.3.4 LUAC Rule certificate creation by accreditation

Table B.37 LUAC Rule certificate creation by accreditation

Name: Accreditation name	Jurisdiction	2003-06	2007	2008	2009	2010	2011	Total
Amcor Packaging (Australia) : Botany Mill Whole of Site Emissions Reduction	NSW	16,806	18,128	22,992	23,423	22,557	23,285	127,191
BlueScope Steel (AIS) : Modifications to #25 Boiler	NSW	77,574	93,267	81,149	32,733	68,623	59,691	413,037
Boral Ltd: Berrima Works Clinker Production Upgrade Kiln 6	NSW	235,772	232,563	163,172	0	203,441	0	834,948
Carter Holt Harvey Australia : Tumut Particleboard Plant	NSW	3,432	4,418	2,832	1,319	1,267	0	13,268
Hydro Aluminium Kurri Kurri : Kurri Kurri Primary Aluminium Smelter	NSW	516,146	644,404	662,220	708,038	716,860	702,004	3,949,672
Norske Skog Paper Mills (Aust) Ltd: TMP Heat Recovery Project	NSW	18,507	15,322	18,547	19,240	23,047	24,868	119,531
Orica Australia : Kooragang Island Ammonia Plant	NSW	0	122,155	106,220	104,096	88,760	42,679	463,910
Tomago Aluminium Company : Greenhouse Gas Reduction Project	NSW	0	102,489	146,803	146,787	141,510	158,061	695,650
Xstrata Coal NSW : Bulga Coal Flaring Project	NSW	0	0	46,989	420,965	493,315	0	961,269
Xstrata Coal NSW : Flaring Project*	NSW	16,500	52,899	47,151	60,636	0	0	177,186

Glossary

This glossary provides a general guide to the terminology used in GGAS. It is designed to be read in conjunction with the Act, Regulation and GGAS Rules. This glossary should not be relied upon as a substitute for legal advice, and does not override the true definitions of these terms in the Act, Regulations or GGAS Rules.

Term	Meaning
Abatement Certificate	A certificate represents one tonne of carbon dioxide equivalent (tCO ₂ -e) of greenhouse gas emissions, the release of which into the atmosphere was avoided, or which was removed from the atmosphere by the activity in respect of which it was created.
Abator	The person contractually liable for the energy consumed in the installation or site that is the subject of a greenhouse abatement activity, or the person nominated to be the abator in respect of greenhouse abatement activity by written agreement. This particularly applies for demand side abatement activities.
Abatement Certificate Provider	A person accredited by the Scheme Administrator under one of the Greenhouse Gas Abatement Rules in respect of an abatement activity.
Accreditation	Authorisation given by the Scheme Administrator to an abatement certificate provider to create abatement certificates in respect of a specified activity, once eligibility against the Greenhouse Gas Benchmark Rules is satisfied.
Act	<i>NSW Electricity Supply Act 1995 (Part 9)</i>
Attributable Emissions	Determined for each Benchmark Participant each year by multiplying the total electricity purchased (at the transmission node ie, from AEMO plus any other purchases adjusted to the transmission node) by the NSW pool coefficient, less any abatement certificates (ie, NGACs and, if appropriate, LUACs) surrendered and RECs taken into account.
AEMO	Australian Energy Market Operator
Baselines	The required level of activity undertaken, or the degree of greenhouse intensity which must be bettered, by an accredited abatement certificate provider before it is permitted to create abatement certificates.
Benchmark Participant	A person who is required or has elected to comply with a greenhouse gas benchmark.

Term	Meaning
Carbon Dioxide Equivalent (CO ₂ -e)	Carbon dioxide equivalent of greenhouse gas emissions means the mass of carbon dioxide measured in tonnes that has the same global warming potential as the unit mass of the gas emissions. Each abatement certificate represents one tonne of carbon dioxide equivalent abated.
Carbon Sequestration	The process of removing carbon from the atmosphere and storing it within an eligible planted forest in NSW.
Carbon Sequestration Rule	<i>Greenhouse Gas Benchmark Rule (Carbon Sequestration) No. 5 of 2003</i>
Compliance Rule	<i>Greenhouse Gas Benchmark Rule (Compliance) No. 1 of 2003</i>
Compliance Year	The period 1 January to 31 December of each year, for which Benchmark Participants must report compliance by 18 March in the following year.
Confidence Factor	Under the DSA Rule and the Large User Rule, the type of engineering assessment of reduced energy consumption undertaken determines the level of accuracy for the calculation of abatement certificates and hence the confidence factor. The more accurate the calculation, the higher the confidence factor, and the more NGACs that can be created for a given level of estimated abatement.
Consumer Price Index (CPI)	Under GGAS, the greenhouse penalty is adjusted each year by the consumer price index (CPI – All Groups Index), on and from 1 July in each year.
Deemed End User Purchases	The total of the <i>exempt sales</i> of a mandatory Benchmark Participant to an elective Benchmark Participant multiplied by the DLF listed in Table 7 of the Compliance Rule.
Deemed Retailer	An accredited abatement certificate provider that is an electricity retailer to which the electrical output of a Category A generating system is allocated pursuant to a Power Purchase Agreement to which the retailer is a party (see definition for Emissions Workbook).
Demand Side Abatement	Activities that reduce emissions by reducing electricity consumption through eligible on-site electricity generation.
Distribution Loss Factor (DLF)	The distribution loss factor is the value of the electrical losses calculated for various points in the electricity distribution network.
DSA Rule	<i>Greenhouse Gas Benchmark Rule (Demand Side Abatement) No. 3 of 2003</i>
Efficiency Improvement Approach	A method used under the Generation Rule to measure greenhouse gas emission reductions. Can be used by certain types of generators that make improvements in the efficiency of electricity production (and thereby reduce their emission intensity).
Elective Benchmark Participant	An eligible large customer or a person engaged in carrying out a State significant project, who has chosen to manage its own greenhouse gas benchmark, and whose election is in force.

Term	Meaning
Electricity Sector Benchmark	Total allowable greenhouse gas emissions from the electricity sector in NSW calculated by multiplying the Total State Population by the State Greenhouse Gas Benchmark per head of population for that compliance year. The Electricity Sector Benchmark is announced by the Tribunal prior to each compliance year (by 30 November each year).
Embedded Generator	An embedded generator or an embedded generating system means a generating system that is connected to the distribution network as defined in the National Electricity Code.
Emissions Workbook	The document entitled <i>Greenhouse Gas Emissions from Electricity Supplied in NSW: Emissions Workbook</i> published by the Ministry of Energy & Utilities in October 2000.
Exempt Sales	The total electricity sold to an elective Benchmark Participant by another mandatory Benchmark Participant during the Compliance Year.
Fugitive Emissions	Greenhouse gases that are discharged into the air as a result of the extraction, transport or production of fossil fuels. Fugitive emissions also include greenhouse gas emissions from landfill sites, sewage treatment works and some industrial processes.
Generation Rule	<i>Greenhouse Gas Benchmark Rule (Generation) No. 2 of 2003</i>
Greenhouse Gas	A generic term for gases such as carbon dioxide, methane, nitrous oxide, perfluorocarbon or sulphur hexafluoride, as defined in the Act and the Regulation.
Greenhouse Gas Benchmark	This is the individual target which must be met by Benchmark Participants each compliance year and represents their individual share of the overall emissions target for NSW (the Electricity Sector Benchmark).
Greenhouse Gas Benchmark Rules	These set out how Benchmark Participants will measure their compliance and how accredited abatement certificate providers are to calculate the number of certificates that they are entitled to create. The Rules are amended from time to time by the Minister for Energy. The most current version of the Rule should be used when calculating entitlements or for compliance.
Greenhouse Penalty	The amount a Benchmark Participant is liable to pay (subject to CPI adjustments) per tonne of carbon dioxide equivalent in respect of excess emissions if they fail to comply with their greenhouse gas benchmark.
Greenhouse Shortfall	The difference between a Benchmark Participant's attributable emissions and its individual greenhouse gas benchmark; if the greenhouse shortfall does not exceed 10% of a Benchmark Participant's greenhouse gas benchmark for that year, it may be carried forward to the following year (except in 2007) and a penalty will not apply.

Term	Meaning
Large Customer	A customer under an electricity supply contract, other than a retail supplier, who uses 100 GWh or more of electricity at a single site or uses 100 GWh or more of electricity at more than one site, at least one of which uses 50 GWh or more of electricity in NSW.
Large User Rule	<i>Greenhouse Gas Abatement Rule (Large User Abatement Certificate) No. 4 of 2003</i>
Loss Factor	The value of electrical energy losses incurred in the conveyance of electricity over a distribution or transmission system.
LUAC	A Large User Abatement Certificate; a non-tradeable certificate in the NSW Greenhouse Gas Reduction Scheme.
RET	The Renewable Energy Target (RET) Scheme. Introduced by the Commonwealth government through the <i>Renewable Energy (Electricity) Act 2000</i> , the RET places a legal liability on wholesale purchasers of electricity to proportionately contribute towards the generation of an additional 41,000GWh of renewable energy per year by 2020.
Australian Energy Market Operator (AEMO)	The body corporate responsible for the administration and operation of the wholesale national electricity market in accordance with the National Electricity Rules.
National Greenhouse Gas Inventory (NGGI)	As part of commitments under the United Nations Framework Convention on Climate Change (UNFCCC), Australia, through the Australian Greenhouse Office, has produced an annual listing of national greenhouse gas emissions since 1990 known as the National Greenhouse Gas Inventory.
NGAC	A Greenhouse Abatement Certificate; a tradeable certificate in the Greenhouse Gas Reduction Scheme.
Office of the Renewable Energy Regulator (ORER)	The Commonwealth Regulator of the Renewable Energy Target Scheme.
Penalty Unit	Each unit is currently \$110; it is defined in Section 17 of the <i>Crimes (Sentencing Procedure) Act 1999</i> .
Pool Coefficient	The average emissions per unit of electricity delivered at transmission nodes for all generating systems supplying the notional NSW pool, as determined in accordance with the Compliance Rule; this factor is announced by the Tribunal by 30 November each year.
Regulation	<i>Electricity Supply (General) Regulation 2001 (part 8A)</i>
Relative Intensity Approach	A method used under the Generation Rule to measure greenhouse gas emission reductions. Can be used by generators that produce electricity of lower emission intensity than the pool coefficient.

Term	Meaning
Renewable Energy Certificate (REC)	A Commonwealth certificate surrendered under the Renewable Energy Target (RET) Scheme that may be brought to account against a Benchmark Participant's benchmark in the NSW Greenhouse Gas Reduction Scheme, based on NSW sales.
Renewable Power Percentage (RPP)	The percentage of electricity sold which NSW retailers must surrender equivalent RECS to ORER each year, under the RET scheme.
Retail Supplier	A mandatory Benchmark Participant under the Greenhouse Gas Reduction Scheme. Includes all holders of an electricity retail licence in NSW.
Rules	<i>Greenhouse Gas Benchmark Rule (Compliance) No.1 of 2003</i> <i>Greenhouse Gas Benchmark Rule (Generation) No. 2 of 2003</i> <i>Greenhouse Gas Benchmark Rule (Demand Side Abatement) No. 3 of 2003</i> <i>Greenhouse Gas Benchmark Rule (Large User Abatement Certificates) No. 4 of 2003</i> <i>Greenhouse Gas Benchmark Rule (Carbon Sequestration) No. 5 of 2003</i>
Scheme Administrator	The body administering functions such as accrediting abatement certificate providers, verifying abatement activity and maintaining a registry of certificates; this is IPART, in the first instance.
Scheme Registry	An online registry of Abatement Certificate Providers and Abatement Certificates.
Sequestration Pool	One or more Eligible Forests which are planted on Eligible Land on which Carbon Sequestration Rights are registered, and which are managed to provide carbon sequestration pursuant to those Carbon Sequestration Rights. The Eligible Forests, the Eligible Lands, and the Carbon Sequestration Rights over the Eligible Lands, may be owned or controlled by more than one entity.
Sequestration Pool Manager	A person who manages a Sequestration Pool, and exercises sufficient control over it to be able to enforce the Carbon Sequestration Rights registered on the Eligible Land on which the Eligible Forests in that pool are planted.
Specific Abatement Project (SAP)	A specific project in which a change to an industrial process results in an identifiable and measurable reduction in greenhouse gas emissions, as defined under the Large User Rule.
State Significant Development	A development that the Minister for Planning has determined is of State or regional significance.
Total Electricity Purchased	This is the total amount of electricity purchased from AEMO, measured at transmission nodes, and embedded generators, measured at the point of generation, by all Benchmark Participants for use in NSW through the compliance year. For a detailed description of the calculations, see Clause 7 of the Compliance Rule.

Term	Meaning
Total State Electricity Demand	The projected electricity consumption in NSW, as determined in accordance with the Compliance Rule; this factor is announced by IPART by 30 November each year.
Total State Population	The projected total number of persons in NSW, as determined in accordance with the Compliance Rule, this factor is announced by IPART by 30 November each year.
