

## 4.10 Great Southern Energy

As of June 2001 Great Southern Energy has become part of the merged entity Country Energy.

### Strategy documents

Great Southern Energy negotiated a Greenhouse Gas Reduction Strategy dated 24 July 1998. It has since submitted updated 1-, 3- and 5-year plan documents as follows:

Title	Date of issue
Revised 5 Year Greenhouse Action Plan	Early 2000

The EPA has audited for effectiveness against the strategy plan that was in effect on 30 June 2000, and hence has assessed performance against the revised strategy, although some reference has been made to the original strategy document when forecast data was needed.

The EPA asked Great Southern Energy to provide a PST, and Great Southern Energy complied. The PST provided includes forecasts and actual performance data.

Where quantitative assessment for implementation against a strategy is required, the assessment has been made against the revised strategy document and information provided in the PST.

### Independent verification report

#### *Examination and assessment of Great Southern Energy's IVR*

In assessing the IVRs for 1999–2000, the EPA has reviewed each IVR against the criteria listed in Figure 3.1 and ranked each criterion using the grading system given on page 18.

*In respect of the reliability and accuracy of the GHG emission data reported by Great Southern Energy, the EPA is of the opinion that there was a **high quantity** of appropriate information to provide the EPA with reasonable assurance that the GHG emission data reported by Great Southern Energy is reliable and accurate.*

The audit opinion is based on the following findings in the IVR:

- The verification methodology appeared to be reported in a **high level** of detail.
- There appeared to be a **high level** of detail on what was verified (e.g. which assigned generation declarations and attribution declarations for sales forgone were verified).
- There appeared to be a **high level** of detail on how and when GHG emissions, emission reductions and ESF were verified and assumptions made by the independent verifier.

- There appeared to be a **high level** of detail on records, documents or other information used as verification evidence.
- There appeared to be a **high level** of detail on the qualifications and experience of the independent verifier.

#### ***Recommendations for future IVRs***

- Each of the mandatory reporting requirements could be addressed as separate sections.
- Some additional information as to the reliability of claims being made using the SEDA deeming formula would be of assistance. (For example, what was the nature of the expenditure being claimed?)

#### ***Provision of performance data***

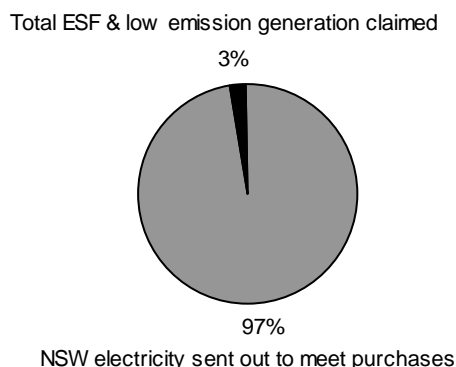
Great Southern Energy is to be commended for the use of tables clearly showing each measure with forecast and actual impacts.

*The EPA is of the opinion that the quantity and appropriateness of data provided by Great Southern Energy are generally **high**.*

### **Effectiveness of Great Southern Energy's GHG strategy**

#### ***Comparison of pool purchases with low-emission options***

**Figure 4.10.1 Low-emission options relative to pool purchases**

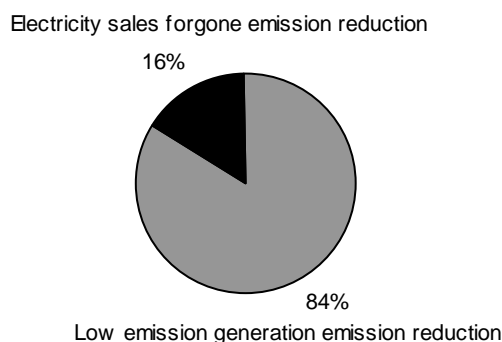


Approximately 97% of the electricity sold by Great Southern Energy is sourced directly from the NSW pool (Figure 4.10.1). The remainder (approximately 3%) is from assigned low-emission generation and ESF activities<sup>30</sup> (including on-site low-emission generation and energy efficiency actions).

<sup>30</sup> The allowable measures are defined in *Framework for Calculation of Energy Sales Forgone*, MEU, February 1999.

**Comparison of contributions from supply-side (low-emission generation) and demand-side (ESF) measures**

**Figure 4.10.2 Proportion of ESF and low-emission generation activities claimed**



Approximately 84% of Great Southern Energy's implemented activities under the GHG reduction strategy requirement are related to low-emission generation using assigned declaration agreements or under Greenpower accredited power purchases (Figure 4.10.2).

The remaining 16% of implemented activities (by volume of GHG reductions claimed) related to ESF from energy efficiency.

Great Southern Energy is undertaking a variety of actions that lead to claims for ESF—such as fuel switching (selling gas-fired heaters to replace more greenhouse-intensive electric heating, for example), promotion of high-efficiency showerheads, and promotion of geothermal heating and cooling systems.

Approximately 50% of Great Southern Energy's claims for ESF related to the use of the SEDA deeming formula.

As discussed elsewhere in this report, while the current framework allows Great Southern Energy to make a claim using the SEDA deeming formula, the EPA is not confident in general of the reliability of claims made under a generic deeming formula.

The reporting of this activity by Great Southern Energy was also difficult to interpret, since it was not made clear in the licence compliance report that this claim was for historical activities based on the SEDA formula. This was only revealed by a close examination of the IVR.

**Effectiveness of supply-side strategies (low-emission generation measures)**

Great Southern Energy's plan for implementing its GHG reduction strategy for 1999–2000 comprised wind, hydro, biomass/biogas, solar and coal seam methane.

A comparison of the forecast performance of measures in the revised strategy plan (early 2000) against the actual performance claimed by Great Southern Energy in its 1999–2000 greenhouse report is shown below:

	% of forecast achieved	Effectiveness	Proportion of total claim
Wind generation measures	+86.3%	High	9%
Hydro generation measures	+78.6%	High	55%
Biomass and biogas generation measures	+34.9%	Low	35%
Solar generation measures	+100.0%	High	0%
Coal seam methane generation	+0.0%	Low	0%
Total	+33.4%	Low	100%

Note: Where cells record a 0% achievement, this means that the strategy included measures of those categories, but there were no successful implementations.

### ***EPA's audit opinion on supply-side strategies***

*Great Southern Energy's supply-side GHG emission reduction strategy based on 'wind generation measures' achieved a **high level** (> 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's supply-side GHG emission reduction strategy based on 'hydro generation measures' achieved a **high level** (> 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's supply-side GHG emission reduction strategy based on 'biomass and biogas generation measures' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's supply-side GHG emission reduction strategy based on 'solar generation measures' achieved a **medium level** (> 35% and less than 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's supply-side GHG emission reduction strategy based on 'coal seam methane generation measures' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Overall, the EPA is of the opinion that the sum total of low-emission generation measures undertaken by Great Southern Energy achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000 against the plan forecasts as revised in early 2000. This is primarily due to the low achievement compared with forecast of the biomass and biogas generation measures.*

## Effectiveness of demand-side strategies (ESF measures)

Great Southern Energy's demand-side strategies for 1999–2000 consisted of historical ESF, internal energy efficiency, high-efficiency showerheads, low energy lighting, geothermal services, network loss reductions, embedded gas cogeneration, fuel switching of embedded equipment, and Snowy hydro energy efficiency (new project). However, the great bulk of ESF claims (58%) made by Great Southern Energy relate to 'historical ESF', claimed by using the SEDA deeming formula.

The table below shows the performance of Great Southern Energy's ESF measures against forecast GHG emission reductions for 1999–2000:

	% of forecast achieved	Effectiveness	Proportion of total claim
ESF measure 1—Historical ESF—claimed using the SEDA deeming formula	+87.7%	High	59%
ESF measure 2—Internal energy efficiency	+0.0%	Low	0%
ESF measure 3—High-efficiency showerheads	+0.0%	Low	0%
ESF measure 4—Low energy lighting	+0.0%	Low	0%
ESF measure 5—Geothermal services	+118.2%	High	18%
ESF measure 6—Network loss reductions*	+0.0%	Low	0%
ESF measure 7—Embedded gas cogeneration	+0.0%	Low	0%
ESF measure 8—Fuel switching of embedded equipment	+825.0%	High	23%
ESF measure 9—Snowy hydro energy efficiency (new project)			4%
Total	+21.8%	Low	100%

\* Not allowable under the guidelines

Note: Where cells record a 0% achievement, this means that the strategy included measures of those categories, but there were no successful implementations.

### ***EPA's audit opinion on demand-side strategies***

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'Historical ESF' achieved a **high level** (> 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'internal energy efficiency' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'high-efficiency showerheads' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'low energy lighting' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'geothermal services' achieved a **high level** (> 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'network loss reductions' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'embedded gas cogeneration' achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Great Southern Energy's demand-side GHG emission reduction strategy based on the ESF measure 'fuel switching of embedded equipment' achieved a **high level** (> 70% of forecast) of effectiveness in reducing GHG emissions during 1999–2000.*

*Overall, even with the ESF claim using the SEDA deeming formula included in full, the EPA is of the opinion that the sum total of demand-side strategy measures undertaken by Great Southern Energy has achieved a **low level** (< 35% of forecast) of effectiveness in reducing GHG emissions during 1999–2000 against the plan forecasts as revised in early 2000.*

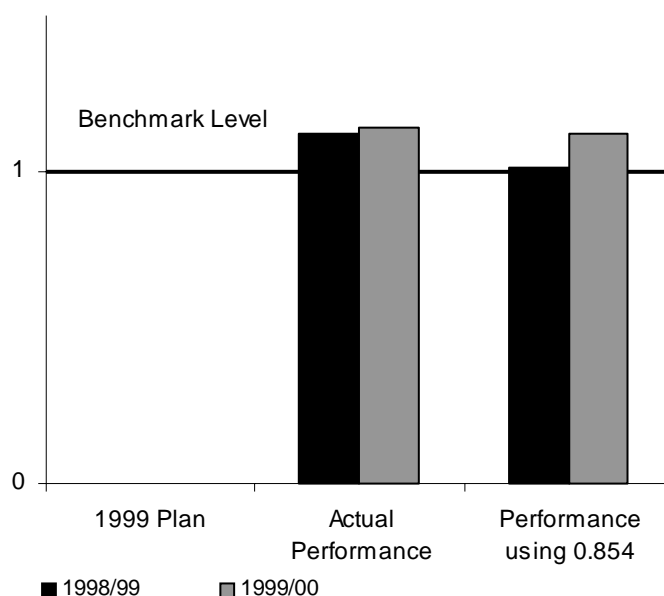
## **Assessment of overall effectiveness in reaching benchmark**

Great Southern Energy has significantly under-performed against the benchmark requirements (see below).

### **Great Southern Energy's performance against benchmark**

Figure 4.10.3 shows Great Southern Energy's reported performance against its emission benchmark (the 1998–99 performance is included for comparison). A positive value implies that actual emissions exceeded the benchmark.

**Figure 4.10.3 Performance against benchmark**



See notes below Figure 4.1.3 on page 29.

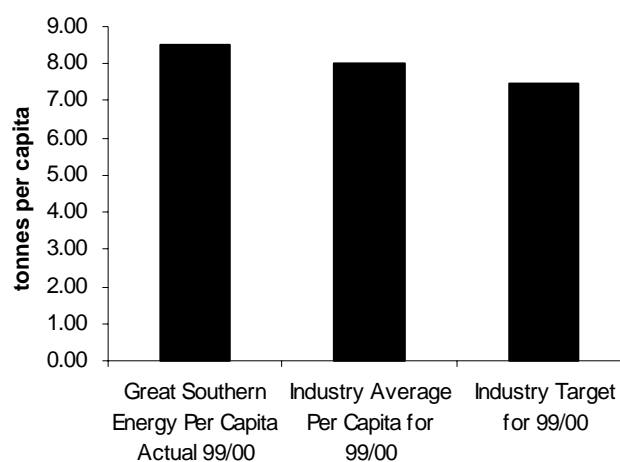
Great Southern Energy did not provide data about the performance targeted under the 1-, 3- and 5-year plans. This information is not in any of the documents supplied to the EPA. Accordingly, the EPA is unable quote Great Southern Energy's planned performance against the benchmark.

*The EPA is of the opinion that the overall effectiveness of the Great Southern Energy strategy implementation is **low**.*<sup>31</sup>

### ***Per capita performance***

Figure 4.10.4 shows Great Southern Energy's performance on a per capita basis.

**Figure 4.10.4 Per capita performance**



<sup>31</sup> The EPA gradings are as follows: high: retailer achieved benchmark emissions or lower; medium: retailer exceeded the benchmark emissions by < 10%; low: retailer exceeded the benchmark emissions by > 10%.