



**SNOWY MOUNTAINS CLOUD SEEDING TRIAL AMENDMENT (EXTENSION)
BILL 2008**

**Bill introduced on motion by Mr Steve Whan, on behalf of Mr Nathan Rees.
Agreement in Principle**

Mr STEVE WHAN (Monaro—Parliamentary Secretary) [10.15 a.m.]: I move:

That this bill be now agreed to in principle.

The Snowy Mountains Cloud Seeding Trial Amendment (Extension) Bill authorises Snowy Hydro Limited to undertake further cloud seeding research over a larger geographical area. The aim of the research project is to increase snowfall from clouds passing over the Snowy Mountains and to assess the effectiveness and reliability of precipitation enhancement technology in the region. The experimental design developed by Snowy Hydro relies on replication in time rather than in space to statistically demonstrate the impact of cloud seeding—that is, the longer the trial runs, the greater the chance to reliably demonstrate if cloud seeding has increased snowfall. This bill will amend the 2004 Act to expand both the geographical area and the duration of the study.

The trial area will be extended 87 kilometres from the Kiandra region in the north to the Ramshead Range in the south and 40 kilometres from the Jagumba Range in the west to Eucumbene and Jindabyne in the east. The total size will be approximately 2,250 square kilometres, which is about double the size of the current target area. This area covers the main catchments of the Snowy scheme. The trial will be extended in duration for a further five years to the current project, that is, up to and including the winter of 2014. This additional period will allow Snowy Hydro time to build, set up and test the new equipment and incorporate the new area into the experimental design. The increased duration will significantly increase the statistical strength of the trial. The additional data can be integrated with the records and analysis of the trial to date. In other words, continuation of the research project, with an expanded trial area, will assist Snowy Hydro to determine with increased certainty the effectiveness of cloud seeding for supplementing natural snowfalls and increasing inflows to storages of the Snowy Mountains Scheme.

The amending bill presents an opportunity for the Government to further encourage and facilitate a project that will yield substantial benefits to the Snowy Mountains, the environment, rural businesses and irrigators who use the water from the Snowy Mountains Scheme. The bill has the potential to provide stronger rural and regional economies, which is a goal of the New South Wales Government and is outlined in the New South Wales State Plan. With the expansion of the trial area, there is potential to more than double the amount of precipitation produced from the current trial. As of the beginning of May, inflows remained significantly below average in the Snowy Mountains, with Lake Jindabyne around 50 per cent capacity, Eucumbene about 17 per cent capacity and Tantangara Reservoir around 7 per cent. This is a serious concern. At these levels, the threat to the environment, downstream communities, agricultural production and electricity generation continue. Storages will remain vulnerable to further drought until prolonged above average inflows are received and water levels return to those seen prior to the start of the current dry

sequence. Additional water is already urgently needed to support downstream rural and regional communities. New South Wales needs to adopt any measure that can reduce the burden on these areas.

Increased precipitation through cloud seeding will assist in reducing the impacts of the forecasted worsening drought conditions for New South Wales irrigators in the Murray and Murrumbidgee valleys. The improved snowfall from the research project will also benefit tourism operators and communities in the Snowy Mountains. Improved snow depth and an increased ski season are both expected outcomes from the research project. As the local member representing a number of ski operators, I know that the expansion of the project has very strong support from the Snowy Mountains ski industry and the local chambers of commerce.

I would add that one of the great benefits to come from the expansion of the trial area is that, for the first time, the trial will cover the Mount Selwyn resort. In the past the Mount Selwyn resort has missed out on being included in such trials, and it certainly could do with the additional snow cover because the resort is marginal at times.

Mr Daryl Maguire: I agree.

Mr STEVE WHAN: I appreciate the comments of the member for Wagga Wagga, who represents the Mount Selwyn ski resort. I represent the slopes of the Mount Selwyn ski resort and the member for Wagga Wagga represents the buildings, which is an interesting geographical split. Alpine recreation makes a significant contribution to the economy. Many businesses in the region depend on a regular and dynamic snowfall to provide a successful ski season. Although the research project has not yet been completed, the feedback I have received is that the project has had a positive impact on snowfalls in the region. The resort operators who are currently covered by the trial certainly have welcomed the project.

Good snowfall also provides incentive for future business investment in the region. In the past 10 or 15 years there has been a noticeable decline in annual snowfall; indeed, the decline in annual snowfall has been noticeable over a much longer period. When one visits the area and looks at the graphs one sees huge snowfall seasons in the early 1970s that have declined over the following years. We had a terrific season last year, and of course we are all hoping for a great season this year as well. Maintaining good snowfall will assist the local area and will continue to provide a substantial benefit to the New South Wales economy.

It should be noted by members that the ski industry is a massive economic benefit to the Snowy Mountains region. For many years tourism has been a major factor in employment growth in the Snowy River shire, in particular, as well as in other shires in the Snowy Mountains region. Research has indicated that snowfalls in the Snowy Mountains region have been decreasing on an average of 1 per cent per year for the past 50 years. The decline in snowfalls, if continued, may lead to the extinction, within 70 years, of between 15 and 40 of the 200 alpine plant species. This is a serious problem for the environment of our region, as the alpine areas of Australia are obviously shrinking with global warming and there are some very special alpine plant species in the region. Again wearing my local member's hat rather than my Parliamentary Secretary's hat, during summer I spend a bit of time walking around the alpine areas of New South Wales. I have observed a noticeable difference in the health of plant communities above the tree line, particularly over the period of the current drought. Anything we can do to assist those plant communities will benefit the area.

Additionally, the research project has the ability to potentially benefit other species

and ecological systems in the Snowy alpine regions. In particular, increased snowfall will directly assist species that are vulnerable to shallow or declining snow, such as the mountain pygmy possum, which requires snow cover for its hibernation period. Over recent years, as a result of global warming and the current drought, the snow cover in areas in which mountain pygmy possums breed has melted early. This has meant that the possums have come out of hibernation and have been looking for food before the arrival of the Bogong moths, which are their main food source. As a result, the mountain pygmy possums, which have emerged from hibernation with low body weight, are far less likely to survive as they await the arrival of the food source. If the research project can assist with that in a small way, that will be a further positive aspect. The endangered northern and southern corroboree frog, the alpine tree frog, the broad-toothed rat and the alpine herb fields may all benefit directly from the increased snowfall.

The research project also provides much-needed relief to freshwater environments on the Snowy and Murray Rivers. The project will assist to avert the adverse effects of long-term climate change on the alpine region of New South Wales. Those who have read some of the CSIRO's research would have seen quite frightening predictions about the decline in run-off into our rivers in future years as a result of climate change, particularly into the Murrumbidgee River but also into the Murray River. It is important to recognise that the project is not simply about providing water for irrigators or more snow for skiers but it is also about conserving the national parks and wildlife of the area, and the riverine environment of the Snowy and Murray Rivers.

The additional water generated from the research project will allow Snowy Hydro to produce a significant amount of hydroelectricity, which provides additional environmental benefits by offsetting carbon dioxide emissions. Not only does cloud seeding present an opportunity to achieve all these benefits, it also does so with a minimal impact on the environment. In fact, the environmental monitoring of the cloud seeding trials to date supports the conclusion of the Snowy Hydro expert panel that cloud seeding is not causing a significant adverse environmental impact. The provisions in the 2004 Act relating to environmental controls have not been altered. I can inform the House that no cloud seeding equipment, such as cloud-seeding generators, will be deployed by Snowy Hydro in wilderness areas.

The Act provides that cloud seeding may be suspended or terminated if the Minister for Planning and the Minister for Climate Change and the Environment are satisfied that one of several circumstances applies. These circumstances include: the cloud seeding operations are having, or will have, a significant adverse environmental impact, or Snowy Hydro has not complied with any requirements with respect to the cloud seeding operations that have been imposed by the Ministers to minimise environmental impact. The Ministers may also suspend or terminate the research project if Snowy Hydro fails to provide information concerning the environmental impact of the cloud seeding activities.

It is important to note that none of these powers has been used in the cloud seeding trial so far. In addition, the Act also provides that the Natural Resources Commission supervise the environmental impact of authorised cloud seeding operations and report on the environmental impact of those operations to the relevant Ministers. In approving the extension and expansion of the trial, Snowy Hydro will be required to prepare a revised environmental management plan, which will include additional environmental protections to ensure that no damage is done to the environment. Snowy Hydro has committed \$20 million over the life of the trial and is responsible for extensive monitoring and reporting requirements based on trial design and risk assessment advice from Monash University.

The Snowy Mountains community and the community on the Murray River are supportive of the extension of the program. The Snowy Mountains community has also expressed satisfaction and confidence in the operational procedures implemented to minimise the risk of impacts on the environment. As I said earlier, I have received indications of strong support for the project from the community I represent, and I am sure they will be very pleased that the bill has been introduced. Indeed, in the past I have been lobbied by members of my community to support the expansion of the trial area, particularly people who live in Adaminaby, which is the major town servicing the Mount Selwyn snowfields.

The Snowy Mountains Cloud Seeding Trial Amendment (Extension) Bill will enable Snowy Hydro Limited to carry out cloud seeding operations for a total of 11 years and extend the area to double the size of the current trial. The extension and expansion of the research project will lead to increased snowfalls and inflows to storages in the Snowy Mountains, generating further significant public and environmental benefit. The bill will enable the New South Wales Government to provide for stronger rural and regional communities, and I commend it to the House.

Debate adjourned on motion by Mr Daryl Maguire and set down as an order of the day for a future day.