OVERSEER®

VALUATION OF THE BENEFITS OF OVERSEER REPORT

QUESTIONS AND ANSWERS

About the Valuation Report

Q: What is OVERSEER?

A: OVERSEER is a web-based application unique to New Zealand that tracks nutrient use and movement within a farm. It can assist in optimising production and environmental outcomes. It uses farm-specific data to calculate greenhouse gas emissions and nutrient budgets for individual farms.

Q: Who owns OVERSEER?

A: The owners of OVERSEER are the parties who have funded it to get to this stage. They are the Fertiliser industry, AgResearch and the Ministry of Primary Industries.

Q: How does OVERSEER work?

A: OVERSEER is a mathematical model that captures the complexity of nutrient cycling in a farm system to help farmers and growers understand the way nutrients flow through their farm. OVERSEER does this by modelling how nutrients coming into the farm (such as fertiliser and feed) are naturally processed by organisms (such as cows, sheep and plants) and/or transformed by physical processes (nutrient cycles) and how nutrients move within the farm.

Q: What is the valuation report?

A: This valuation report was prepared by the independent agricultural economist Phil Journeaux. He was asked to assess:

- The value of the benefits of OVERSEER as it exists today.
- The value of the benefits to develop the model in future.

In doing this he was asked to look at its value as a research tool, its value in the efficient use of fertiliser and in assisting nutrient management on-farm.

Q: Why was the Valuation report undertaken?

A: The board of OVERSEER wanted to better understand its contribution to New Zealand agriculture and the value it creates.

Q: What were its key findings?

A:

- That an outputs-based policy approach is significantly benefited by the existence of OVERSEER.
- That output-based policy was preferred (over inputs-based policy).
- That researchers would either be limited to more simplified analysis and/or required to undertake significantly longer data analysis in the absence of OVERSEER.
- That OVERSEER saves time and cost in the agricultural sector.
- That it should continue to be used and enhanced.

- That its use produced significant consistency benefits.
- That on-going investment in to OVERSEER is required to ensure it meets growing requirements, as its application is becoming or will become further spread (e.g. use in regulation).

Q: Who was interviewed as part of the valuation project?

A: A comprehensive group of stakeholders totalling 28 individuals was interviewed. These stakeholders including people from the following backgrounds: Regional Councils, MPI, MfE, MBIE, agriculture sector organisations, educational organisations and science organisations.

Q: Who is the author of the report?

A: Phil Journeaux is an agricultural economist who was contracted to undertake this research. He works for AgFirst Waikato – an organisation which provides farmers, growers and agribusiness clients access to experienced consultants who offer sound, unbiased advice. AgFirst is an independent organisation.

Phil has worked for AgFirst for 4 years, and was previously at the Ministry of Agriculture and Forestry for 35 years. He has been a member of the New Zealand Agricultural and Resource Economics Society for 23 years and on the executive for the last 10 years. He has an MAgSc(hons) and a MBA.

Q: What measurements were primarily used to determine value?

A: This report determined an annual figure of the value of OVERSEER by assessing data from Statistics New Zealand, MPI, MBIE and a number of research reports to determine an estimated real spend relating to OVERSEER activities – a "with OVERSEER" scenario. It then compared that with information gathered from stakeholders to assess the costs of alternative tools to OVERSEER – a "without OVERSEER" scenario. This concluded an average value of $271 million/year. A calculation was then made of the value projected over a 50-year lifetime. This figure came to $3.3b.

Q: Does this mean OVERSEER is worth $271 million?

A: Using accepted economic measurement techniques, it has been determined that OVERSEER contributes an average benefit of $271m per year to the agricultural sector. From the board's point of view a figure of this magnitude simply indicates that OVERSEER is a very valuable asset with a great deal to give to the agriculture sector. It gives the board confidence to continue to invest in its capability.

Q: How accurate is the valuation figure?

A: The figures presented in the report are an informed assessment, representative of the on-going, significant benefits that OVERSEER contributes to the agricultural economy. The author has presented figures in ranges, allowing for variability. Best efforts have been made to fairly represent potential costs associated with OVERSEER. As no prior literature or study of this kind has been conducted, these figures are indicative only.

Q: What will OVERSEER do with this information?

A: This valuation was prepared to stimulate thinking around the current and future role of OVERSEER and its place in the future of the agriculture industry.

Q: What is the difference between "inputs-based policy" and "outputs based policy"?

A: Inputs-based policy controls what goes *into* a farm system, where as an outputs-based policy controls the likely *results* ("outputs") of activities on-farm.

Q: What is the potential impact of an inputs-based policy on the environment?

A: Use of inputs-based policies are complicated. Because no two farms are exactly the same, inputs-based policies would have to be complex and tested regularly to ensure they were achieving the desired environmental results on each farm. Furthermore, changing the levels of inputs does not necessarily always correlate directly to reduced impacts on the environment– for example, stocking rate reductions of 17 and 30 per cent would only result in nitrogen leaching reductions of 10 and 20 per cent respectively. Therefore, it is noted within the report that input controls would need to be relatively onerous to ensure any reductions were achieved.

Q: Why is consistency of data between different farms important?

A: It is important, particularly for regional councils, to be able to analyse and compare data from multiple farms. Continuity of data from farms assessed using OVERSEER allows assessment of the impact of those collectives across a number of factors. This information can be used to gain an overall picture of how a collective, or even how a region, is impacting the environment with agricultural activities. Collating information from different data sources which use different assessment criteria can be both problematic and time consuming.