



Review of Transition Provisions for the Code of Welfare for Layer Hens

**Report Prepared for National Animal Welfare
Advisory Committee**

Final Report

Harris Consulting

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Table of Contents

Executive Summary	5
Background	8
Key Issues	10
Farmer issues	10
Access to cages	10
Land.....	10
Decision making	10
Consenting	10
Capital	13
Cashflow.....	14
Building	15
Timing.....	15
Price	15
Industry, consumer, market issues	15
Hatcheries	15
Market Disruption.....	16
Non compliant behaviour	16
Analysis	17
Case studies	17
Production analysis.....	21
Impact of access to capital.....	22
Impact of conversion downtime	24
Impact of 2014	24
Risks	25
Discussion	25
Appendix 1: Assumptions used in consenting analysis.....	29
Appendix 2: Survey of Farmer Intentions	30
Table 1: Transition Steps in Code of Welfare for Layer Hens	5
Table 2: Transition Steps in Code of Welfare for Layer Hens	8
Table 3: Location of egg producing farms by regional and district council (source: EPF)	11
Table 4: Estimated time frames for consenting (source: Harrison Grierson).....	12
Table 5: Estimated cost for consenting associated with changes to layer hen operations (Source: Harrison Grierson 2013).....	12

Table 6: Case study of conversion for a uniform age shed with no shed conversion	18
Table 7: Case study of conversion for a mixed age shed with shed alteration	18
Table 8: Case study of conversion for uniform shed to converted shed and new shed to maintain production.....	19
Table 9: Case study of conversion for existing 5 shed farm to colony plus new sheds for shortfall whilst maintaining even production	19
Table 10: Case study of conversion for existing 5 shed farm to new farm whilst maintaining even production.....	20
Table 11: Estimate of conversion of cage flock to colony cages.....	22
Table 12: Estimate of cumulative shortfall at transition dates removing the operators that represents the lower 10% of the national flock.....	23
 Figure 1: Cumulative proportion of national flock by number of operators	23

Executive Summary

1. In December 2012 the Minister for Primary Industries issued a new code of welfare for layer hens, which replaced the previous 2005 code. The code essentially requires all caged hens producers to transition either to enriched colony cages, barns or free range. Approximately 80 – 90% of egg production in NZ is undertaken in cages. There is the potential for the availability and price of eggs to be significantly affected by the transition. This is of particular interest since eggs are a staple food item and an important source of protein for lower income households.
2. The new provisions will require replacement of all existing cages, the construction of new sheds because existing sheds will not hold as many birds, and in some cases the building of whole new farms to accommodate the increased space requirements. This report has been commissioned by NAWAC to assess the practicality and feasibility of the transition provisions.

Table 1: Transition Steps in Code of Welfare for Layer Hens

Year	Transition step
2016	Cages more than 17 years old (installed prior to 31 December 1999) can no longer be used from 31 December.
2018	Cages more than 17 years old (installed prior to 31 December 2001) can no longer be used from 31 December.
2020	Cages more than 17 years old (installed on or prior to 31 December 2003) can no longer be used from 31 December.
2022	Cages can no longer be used from 31 December. All hens must be housed in colony cages or barns (with or without outdoor access).

3. Potential transition issues were identified with cage availability from manufacturers, installer availability, and builder availability. These were not considered to be a major barrier to meeting transition time frames. Time will be required for decision making, purchasing land, and consenting. For new sheds and new farms consenting is potentially a major delay, and it would only take a single appeal on a new farm for there to be a major reduction in egg supply if the operator were to remain compliant.
4. Within the constraints of the 2022 deadline for all farms to convert, access to capital is probably less of an issue than it first appears. The industry analysis shows that even extending the time frame would have little impact on the ability of the marginal operations to fund the transition. The conclusion reached therefore is that the operations that can access capital within the transition time frame will do so regardless of the transition process, whilst those that struggle to access capital would struggle regardless of the transition time.
5. Cashflow will be impacted by the conversion hiatus, which can be spread out more easily for multi shed operations over a longer time period. There are few options to prevent cashflow disruption for small, single shed farms, but this will not be affected by the timing of transition.

6. National scale issues include the potential for vulnerability to disruption in the hatchery business, and disruption in the marketplace. The latter is particularly important in terms of price volatility, added pressure for imports, and access to protein for low income families. These issues point to the need for as smooth a transition process as possible.
7. Case studies of farm conversion indicate that it should be feasible for existing single sheds to be converted to a colony shed within the required transition dates. The process for any farmer considering building a single new shed to maintain production for a 2016 deadline would have to begin immediately to be ready to change over at the end of their laying cycle.
8. Situations that appear unachievable for the 2016 deadline are the conversion of a multi-shed operation either on an existing farm or converting to a new farm. In this situation the preparation is more complex, and the need to stage the process to maintain production means a long period is required to complete the total project. Completing a new farm even by the 2018 deadline will require an immediate start and no delays at any stage of the conversion process.
9. Data from the survey of farmers was used to estimate the impact of the transition on egg production. The data suggests that approximately 30% of the current flock will remain in the same sheds, 24% in new sheds on the same land, and 24% in new farms. Approximately 30% of birds numbers will be converted in 2016, and a similar proportion in 2022, with only 11% in 2018. The proposed conversions by the respondents match the pattern of the required transition closely.
10. There is a shortfall at the 2016 and 2018 transition dates of 180,000 and 100,000 birds respectively, with a maximum cumulative shortfall of 10% of current production. It is not until 2020 that new sheds are built in sufficient numbers to recover the birds lost in the initial transition, but there is projected to be a shortfall at end of the transition of 20%. Adjusting the figures to reflect potential non-viability of smaller producers made little difference to the overall shortfall, indicating that the behaviour of the larger producers will have the greatest effect on the ability of the industry to maintain production through the transition. In this context the survey data suggests that farms covering 56%¹ of the proposed new shed production have no secure source of funding, which indicates that there are significant risks that remain to the transition pathway.
11. Downtime of production over the transition period due to shed conversion is estimated in the order of 2% of national production over the transition period. Clearly the longer and more even across time the conversion process occurs, the less the impact of the hiatus in production. There will be a further reduction of approximately a 2 – 3% in the national flock as a result of the 2014 requirement for additional space per bird.
12. There is considerable potential for the transition process to be less clear cut than appears to be the case. Over 50% of the proposed production in 2016 and 2018 is intended to come from new sheds, with 40% of the proposed production in new sheds on new land. There are only 8 producers considering building new sheds, and these 8 producers cover 65% of the

¹ Including those that don't know and those who require more than 50% from bank loans.

market. It would therefore take only one of these operations to experience difficulties, with the most likely categories being consenting or access to capital, for there to be a significant additional shortfall in the marketplace. While it is likely that any shortfall can be addressed in the longer term, in the early parts of the transition process it may prove difficult because producers will be focused on maintaining supply to their current customers rather than increasing market share.

13. Thus in the view of the author there is a high risk of significant disruption to the marketplace associated with the early parts of the code of welfare transition pathway. In order to address this problem alternate transition pathways need to be considered. While these may involve more time, the key features of any changes need to be:

- Incentivising the building of new sheds early, since without new sheds egg supply will be reduced and there will be considerable market volatility.
- Flexibility around the laying cycle, so that producers are able to meet the transition pathway of their farm in a way that allows continuity in the supply of eggs.
- Maximises the length of time of the transition and the evenness of conversion over that time, so that disruptions to supply are minimised.

Background

In December 2012 the Minister for Primary Industries issued a new code of welfare for layer hens, which replaced the previous 2005 code. The most significant change in the new code was that it disallowed the use of battery cages, following a phased transition period. These codes of welfare, while not legally enforceable of themselves, can be used as evidence in a prosecution taken under the requirements of the Animal Welfare Act 1999. The code essentially requires all caged hens producers to transition either to enriched colony cages, barns or free range.

Approximately 80 – 90% of egg production in NZ is undertaken in cages. Because imports of fresh eggs are difficult for both logistical and biosecurity reasons, the market is completely dependent on locally sourced product. There is the potential for the availability and price of eggs to be significantly affected by the transition. This is of particular interest since eggs are a staple food item and an important source of protein for lower income households.

The laying industry is concerned about the transition provisions. While it accepts the need for the provisions of the code, and the final date for conversion (2022), it predicts considerable difficulty among its members in meeting the transition dates proposed in the code. These transition dates are set out below in Table 2.

Table 2: Transition Steps in Code of Welfare for Layer Hens

Year	Transition step
2016	Cages more than 17 years old (installed prior to 31 December 1999) can no longer be used from 31 December.
2018	Cages more than 17 years old (installed prior to 31 December 2001) can no longer be used from 31 December.
2020	Cages more than 17 years old (installed on or prior to 31 December 2003) can no longer be used from 31 December.
2022	Cages can no longer be used from 31 December. All hens must be housed in colony cages or barns (with or without outdoor access).

14.

The new provisions will require replacement of all existing cages, the construction of new sheds because existing sheds will not hold as many birds, and in some cases the building of whole new farms to accommodate the increased space requirements. The industry concerns arise from the significant proportion of farmers affected by the early transition dates, and difficulties in accessing land, consents and capital to maintain current egg production. An analysis commissioned by them² for the review of the old code of welfare concluded that it would take at least 10 -15 years before large to medium sized producers could afford to move to colony cages.

This report has been commissioned by NAWAC to assess the practicality and feasibility of the transition provisions. The concept of practicality and feasibility has been taken to mean:

² Nimmo Bell 2010 Economic Impact of a proposed revision to the Code of Welfare for Layer Hens. Nimmo Bell contract report prepared for the Egg Producers Federation.

- The physical and financial ability of farmers to change their production systems to a compliant system by the required date.
- The ability of the industry overall to maintain a reasonably stable supply of eggs over the transition period without excessive volatility in availability or price of eggs.

The latter point about price volatility is important because supply is expected to decrease as a result of the new code, and price is expected to increase because the new system has higher production costs than the old cages³. However the analyses that suggest these changes estimate long run outcomes, and because the transition provisions remove different numbers of cages at different times, there is potential for significant short term price movements which would be detrimental to consumers. From the industry perspective price volatility is difficult to manage and would increase pressure to allow import of eggs with attendant biosecurity risks. The short term supply and price volatility is seen as undesirable by all parties.

It is important to understand that this review is not about the feasibility of moving to colony cages, nor of whether the transition should be completed by the final 2022 deadline. Even the concept of a transition process is supported by all parties. A single date for conversion would potentially result in massive volatility as large parts of egg supply were removed at the same date, or alternately there would be extreme pressure to extend the date for adoption of the code. These are not up for discussion, and therefore the report assumes that they are a given. The report focuses solely on the feasibility of the transition process described in the code of welfare, and on whether it is achievable without significant disruption to the market.

The review is based on the following sources of information:

- Financial models of a farm production system produced for the industry assessment of the impact of the code⁴.
- A confidential survey of farmer intended responses to the code of welfare undertaken in April 2013 (see Appendix 2).
- A survey of industry production undertaken by the Egg Producers Federation in March 2013.
- Visits to a large and small farm in April 2013.
- One meeting and 2 teleconferences with the industry in April 2013.

The report begins with a discussion of the key issues raised in achieving the transition period, and assesses the significance of these issues. It then undertakes an analysis of feasibility from an individual farm scale using brief case studies, and an industry level analysis showing farmer intentions for conversion and construction of new sheds. It concludes with a discussion of the issues raised and the feasibility of transition.

³ Both industry and MPI analyses support this conclusion. [Reference]

⁴ Supplied by Andrew Thomas as used for the Nimmo Bell report on feasibility of colony cages for the industry.

Key Issues

Farmer issues

Access to cages

Colony cages are purchased and installed as a system, complete with feeding, egg collection and manure removal incorporated. These are generally manufactured in Europe. Concern has been expressed by some industry sources that with the majority of the NZ industry converting to colony cages, there may be problems in accessing equipment from the manufacturers. A major supplier⁵ in the Australasian area was contacted to discuss potential issues with availability of equipment.

The industry source indicated that current order to installed times are 6 – 9 months for a colony cage system. The source suggested that while the potential orders from NZ were significant locally, on an international scale they would be only minor. As an indication of scale the source's company is regularly installing 3 million bird farms in China. The whole of the NZ cage production industry is in the order of 3 million birds, so it appears that cage availability over a 6 year transition period is unlikely to be a significant issue.

Land

Even if all existing sheds were converted to colony cages there would be a shortfall in bird numbers because of the additional space required per bird. It appears from survey information that there is insufficient room on existing farms to install new sheds to meet this shortfall, so new land will need to be purchased for layer hen operations. The amount of land is not significant, but the identification of a suitable site both from a physical and consenting perspective may take some time. Delays in the order of 1 year to 18 months are expected within the industry for a completed sale.

Decision making

The survey responses clearly indicate that farmers in the industry are only starting to get to grips with the implications of the code for their operation. There is considerable to work to undertake for each operation in terms of identifying the most appropriate conversion pathway (or exit) as appropriate. This will be a complex decision for many farmers since without adding additional sheds, which may not be practical, their operation size and associated economies of scale will be affected. Because industry profitability is known to be highly variable across time and different operations, there will be a range of responses required. Availability of capital (discussed below) will be probably the key factor in this decision for many operations.

Consenting

EPF has identified the location of all current laying farms as shown in Table 3. Harrison Grierson reviewed the consenting requirements for all regional and district councils where egg farms are currently located, and provided an estimate of time and cost for different consent types (discretionary, controlled, notified vs. non notified etc.). The consenting requirements and costs are summarised in Table 4 and Table 5.

The results from these analyses suggest that the delay for consenting could be up to 36 weeks for notified consents, and up to ~20 weeks for non notified consents. These figures assume that all

⁵ Steve Cadwallader, Big Dutchman

proceeds smoothly with the consent application, and in experience suggests that in practice time frames may be longer. However it should also be noted that the ability to consent an alteration or new shed will have an important bearing on the decisions that farmers make about the directions in which to proceed. For example any new farms are likely to occur only in districts/regions and in locations where consents are likely to be readily granted. Farms on the fringes of urban areas are not expected to be significantly altered for this reason. Responses from surveys indicate that 7 of the producers were likely to be affected by delays of 30 weeks or more, and this constituted all of the new sheds that respondents indicated are likely to be installed. Therefore it seems reasonable to conclude that there are likely to be delays in the order of 6 months to one year for any new sheds, but only minor delays for alterations to existing sheds. The implications of the delays in consenting new sheds has important implications for continuity of egg supply, because even if all existing sheds were converted to colony cages, there would be a minimum 25% reduction in egg supply. The time taken to install new sheds has critical implications for continuity in egg supply.

In cost terms the consenting will cost from <\$10,000 to ~\$50,000 depending on the circumstances and need for notification. If there is any unresolved opposition to the consent, or appeals to the Environment court, these costs should be expected to increase significantly.

However in the context of the costs likely to be incurred by any egg producer considering installing a new or altered shed, these costs are relatively minor and are not considered likely to affect the feasibility of the transition period.

Table 3: Location of egg producing farms by regional and district council (source: EPF)

Region	# Farms	District/City	# Farms
Northland Regional Council	2	Whangarei City Council	2
Auckland Council	2	Auckland Council (ex Franklin)	2
Bay of Plenty Regional Council	2	Western Bay of Plenty District Council	1
		Whakatane District Council	1
Waikato Regional Council	6	Hauraki District Council	1
		Waikato District Council	3
		South Waikato District Council	2
Taranaki Regional Council	1	New Plymouth District Council	1
Gisborne District Council (Unitary Authority)	1	Gisborne District Council (Unitary Authority)	1
Hawkes Bay Regional Council	5	Hastings District Council	4
		Napier City Council	1
Horizons Regional Council	5	Horowhenua District Council	2
		Manawatu District Council	1
		Wanganui District Council	2
Greater Wellington Regional Council	1	Kapiti Coast District Council	1
Tasman District Council (Unitary)	1	Tasman District Council (Unitary)	1

Region	# Farms	District/City	# Farms
Authority)		Authority)	
Canterbury Regional Council	4	Hurunui District Council	1
		Waimakariri District Council	1
		Selwyn District Council	2
Otago Regional Council	6	Waitaki District Council	2
		Central Otago District Council	1
		Dunedin City Council	3
Southland Regional Council	1	Invercargill City Council	1

Table 4: Estimated time frames for consenting (source: Harrison Grierson)

Timeframe	Breakdown
<i>Consent Preparation</i>	<ul style="list-style-type: none"> Emissions testing – 6 weeks (no other consent preparation work can be undertaken concurrently with this testing); Odour modelling – 4 weeks (can occur concurrently with other consent preparation work); Water take desktop analysis – 2 weeks (can occur concurrently with other consent preparation work); Preparation of plans, including site surveys where required – 2 weeks (can occur concurrently with other consent preparation work); and Preparation of application report – 2 weeks (can occur concurrently with other consent preparation work). <p>Total: 4 – 10 weeks</p>
<i>Consent Processing – Non-notified application</i>	<ul style="list-style-type: none"> Acceptance for lodgement (s88 check) – 1 week; Council processing time – 4 weeks (20 working day statutory timeframe); and Further information requests – 2 weeks. <p>Total: 7 weeks</p>
<i>Consent Processing – notified application</i>	<ul style="list-style-type: none"> Acceptance for lodgement (s88 check) – 1 week; Further information requests – 2 weeks; Decision to notify – 2 weeks (10 working day statutory timeframe); Notification preparation (prepare package, obtain correct fee, Council admin) – 2 weeks; Submission period – 4 weeks (20 working day statutory timeframe); Hearing preparation (writing of evidence, preparing Council's officers report and hearing agenda, organising hearing panel) – 6 weeks; Hearing – 1 week; and Preparation and release of Council decision – 3 weeks (15 working day statutory timeframe). <p>Total: 26 weeks</p>

Table 5: Estimated cost for consenting associated with changes to layer hen operations (Source: Harrison Grierson 2013)

Timeframe	Breakdown
<i>Consent Preparation</i>	<ul style="list-style-type: none"> Emissions testing – \$4,000; Odour modelling – \$6,000; Water take desktop analysis - \$5,000 Preparation of plans for existing farms using existing information or aerial photographs - \$1,000; Preparation of plans for new farms requiring site survey - \$2,500; Preparation of non-notified application report – \$3,000; and Preparation of notified application report - \$6,000. <p>Total: \$4,000 to \$17,000</p>
<i>Consent Processing – Non-notified application</i>	<ul style="list-style-type: none"> Council processing fees (based on Ministry for the Environment Survey of Local Authorities 2010/2011 data [rounded]): <ul style="list-style-type: none"> District Council consent (land use) - \$1,200 Air discharge, stormwater discharge and land discharge consents - \$1,800 Water take consent - \$1,900 Consultant post lodgement work (further information requests, Council liaison) - \$1,000. <p>Total: \$2,200 to \$2,900</p>
<i>Consent Processing – notified application</i>	<ul style="list-style-type: none"> Council processing fees (based on Ministry for the Environment Survey of Local Authorities 2010/2011 data [rounded]): <ul style="list-style-type: none"> District Council consent (land use) - \$7,400 Air discharge consent - \$11,300 Consultant planning post lodgement work (hearing preparation and attendance) - \$6,000; and Consultant technical post lodgement work (hearing preparation and attendance) - \$10,000. <p>Total: \$23,400 to \$27,300</p>

Capital

Capital will be required to undertake conversion of existing sheds, and for any new sheds and new farms that will be built. Data from the industry suggests a capital cost of \$20 - \$25 per bird for converting a shed to colony cages, and \$55 per bird for new sheds (excluding land). For new farms, the capital demands will be higher because of the need to add graders, feed mills and storage, rearing sheds and other infrastructure.

Financiers from 2 of the three major rural lenders were spoken to in the course of this analysis. The results of this discussion are clearly confidential, however the general impression is not favourable to the industry in terms of raising capital. Historical price volatility, and ongoing structural change in the sector from smaller to larger producers and a supermarket dominated food chain, mean that there are likely to be a number of producers who are unable to access capital. The bankers will be aware of the different cost structures across producers, which will influence their assessment of the viability of some proposed conversions. As an example the cost of cages for older, shorter sheds (say 50m) are 25% higher than colony cages in longer (100m) sheds, because much of the cost is associated with the equipment at the ends of the rows (motors, elevators, controllers etc). Even where finance is available, debt to asset ratios of 50% are likely to be sought. Although this is probably similar to current requirements, it does mean that any operators with significant current debt will be required to introduce new equity capital into their businesses.

Because a significant proportion of the current equity in a farm is tied up with the existing sheds and cages which are devalued to zero following conversion, the loss of this equity will affect the ability of farmers to raise bank loans. The industry analysis shows that in order for farmers to be able to accumulate sufficient capital internally to meet debt: asset ratios, the transition would need to be delayed by more than the 10 year time frame allowed in the code. It appears therefore within a 2 – 4 year difference, the transition time frame will have only minor impacts on the ability of farmers to access debt capital or to generate capital internally.

The ability to access external equity may well be affected by the shorter transition times. Smaller operators are unlikely to bring external investors into the operation, but it may be an option for some of the larger operators. Although there are many operations which are traditional family farm structure, the larger entities in the industry are at a size where they may be attractive to equity investors. While equity capital raising is highly situation specific, and there are not likely to be any public capital raising, a year would be a minimum time frame from initial concept to capital injection based on the author's experience in other primary sector operations.

Cashflow

The requirement for transition will involve the removal of old cage systems and introduction of new ones, with a 2 – 3 month hiatus in egg production. This hiatus implies a reduction in revenue, which in turn has cashflow implications for producers. The impact of this hiatus will depend on the number of sheds and the transition time frame.

- A single shed producer will experience a 100% reduction in income regardless of the time frame.
- A 5 shed operation will experience a 20% reduction income. If the sheds were transitioned over a 4 year time frame, this would amount to 4% reduction in revenue per year.
- An operation building new sheds as well as converting old sheds should be able to time the build and conversion to eliminate loss in revenue.

Although the impact of a shed being out of production is the same for both a small and large operation, the large operation can spread the impact over a longer time period. Clearly the implications for the single shed producer are serious for the period the shed is out of production, and the reduction in cashflow may affect the viability of the operation. However there is also no scope to alter this impact through the transition provisions, because regardless of when it occurs the loss will be the same. The advantage of extending the transition longer for the small producers is to allow for accumulation of capital, although the reality of the economics of these small operations is that there is limited scope to do so because of low profitability.

For a multi shed producer the longer transition will reduce the annual impact because although the time out per shed is the same, it can be spread over a longer time period, and ultimately this increases the resilience of the business to cope with the change. In this sense the longer transition period is more desirable.

It should be noted though in the cashflow context that the reduction in supply associated with this hiatus (discussed below) and other changes in the industry supply and economic structure will result

in increased egg price⁶, so the loss in revenue may be ameliorated somewhat. It is very difficult to predict how these matters will play out in practice, so in decision makers should adopt an element of conservatism in their thinking and assume that the cashflow impacts need to be minimised where possible.

Building

The sheds are not complex structural items, and there are no major engineering difficulties likely to be encountered. While supply of builders may be constrained somewhat by major reconstruction in Christchurch and other infrastructure projects being undertaken nationally, it is assumed that price will be the major constraint rather than actual availability of skills and labour.

Building a shed is estimated by an industry source with recent experience to require 6 months for construction and a further 3 months for wiring and installation of equipment. This estimate is used for the purposes of analysis below.

Timing

Egg producers are required to maintain a constant supply to their customers, which in turn requires an ability to stage the laying cycle of hens. The hens lay for approximately 52 weeks, after which the birds are euthanised and new hens introduced. Producers will aim to time any shed alterations at the end of the laying cycle in order to minimise disruption and maintain continuity. This will need to be carefully planned in advance, because farmers must place their orders with the hatchery approximately a year in advance of requiring the birds to be laying.

The primary impact of any timing considerations is likely to be financial rather than an impact on feasibility of transition. However it is noted that for some farmers who leave their planning late, the ability to hit an absolute deadline may be compromised.

Price

Egg price will affect the ability of producers to attract capital for conversion and new sheds. This applies to both debt and equity capital. The current price of eggs is considered by the industry to be reasonable, and with the reduction in egg numbers from 2014, the increased costs of colony cages, and the hiatus in production associated with conversion of sheds is highly likely to increase.

However egg price volatility has historically been high, and this as much as the absolute price is important. An increasing and stable price would be positive for transition, but it is possible that extreme price volatility will be detrimental to the ability of producers to access capital. The issue of price and price volatility is of considerable importance in determining the viability of transition for farmers.

Industry, consumer, market issues

Hatcheries

There are two laying hen hatcheries in NZ. Genetic lines are imported from Europe, and multiplied up. Chicks are hatched then delivered to farmers who then rear them to 15 – 18 weeks of age, at which time they are introduced to laying cages.

⁶ LECG 2010 [REFERENCE]

The hatcheries are a critical part of the industry, and there are considerable lead times involved. These include the lead time for importation, and the lead time for farmers for ordering each batch of chicks. The hatcheries are likely to be low margin operations in line with the rest of the industry, and their ability to withstand major swings in demand for chicks is likely to be limited. Because any shed changeover will involve ~ 3 months of down time, this will introduce a potential hiatus in the production of chicks. If shed changeovers are staggered, the impact may not be major. However if they occur all at the same time, the impact could be significant. If there are major delays between the reduction of numbers from introduction of colony cages to existing sheds, and the building of new sheds, the implications could potentially be serious. Therefore the transition pathway has potentially significant implications for the hatchery part of the industry.

Market Disruption

As noted above the transition has the potential to introduce major market disruption if undertaken in a manner that causes sudden reductions in supply of eggs. The key to the transition in supply terms appears to be the rate at which new sheds are able to be built since this will ultimately determine the ability to replace production lost because of farms exiting the industry and reduced capacity of remaining sheds because of the space requirements associated with colony cages.

The implications are important for:

- Price, with major price movements causing damage in the marketplace.
- Pressure for imports – while from a policy perspective there is no issue per se with importation of eggs provided all requirements are met, the industry is greatly concerned both from a competitive pressure perspective and a biosecurity perspective. Imports are likely to only be feasible for liquid or processed egg products, which will be limited to commercial and industrial customers, but it would change the dynamics of the market place.
- Access to Protein – MPI⁷ have indicated that eggs are considered an important protein source for low income households. NZ has a high per capita egg consumption and disruptions to supply will have important consumer welfare costs. Because of a lack of equivalent priced substitutes, there is a need from a national perspective to ensure that continuity is maintained in the industry supply chain.

Non compliant behaviour

High prices and short supply will encourage farmers to ignore the requirements of the code and continue to use current cages. While enforcement is clearly the required response to such occurrences, enforcement becomes difficult when there are a number of producers behaving in the same way, and when the social costs of a shortage of eggs are high. Furthermore non compliant behaviour would disrupt the transition because existing cage farmers are able to produce at a lower cost than new colony cage farmers, so the building of new sheds would be discouraged. There has been mention in discussions with farmers that it takes a significant length of time for non-compliant

⁷ MPI, 2012. Animal Welfare (Layer Hens) Code of Welfare report.

<http://www.biosecurity.govt.nz/files/regs/animal-welfare/layer-hens-report-final-2012.pdf> accessed 29 April 2013

operators to be closed down, and there are still operators non-compliant with codes of practice required in 2005. They see therefore that there is considerable potential to extend the life of their current cage systems if they are not able to convert to colonies or another operation. A smooth transition with minimal market disruption will increase the chances of code compliance among producers.

Analysis

The analysis comprises a number of case studies of conversion to colonies, an assessment of overall industry impact from a survey of producers, and assessment of other impacts including the 2014 provisions and the production hiatus during changeover.

Case studies

Short case studies are outlined below for examples of farm conversions. The case studies set out a timeline for the major stages of converting to colony cages. These stages include:

- Planning and capital – the producer needs to make decisions on whether to proceed with conversion, what equipment to source, costs, location, infrastructure etc. Once these decisions have been made, the capital requirements can be planned and bank or other source of finance arranged. For simple conversions figures in the order of 6 months have been identified, while for complex systems, new sheds and new farms longer periods will be needed.
- Cage order – covers the period from ordering of the cage to its arrival ready for installation. 6 months has been allowed, although this is relatively conservative and the equipment may be available earlier depending on the factory order status at the time.
- Land purchase – for new farms there is a need to identify a suitable piece of land for a new farm. Because the poultry industry is not a highly desired neighbour, it may require some searching to obtain the right piece of land in a location where consents can be readily acquired, and which is reasonably close to markets or other infrastructure.
- Shed construction or alteration – the physical construction process.
- Installation and wiring – the equipment is installed and wired up, including any other shed infrastructure required such as ventilation, manure handling etc. This typically defines the time a shed is out of production during the changeover process.

Each stage is described as either sequential or concurrent.

- Sequential implies that it requires the previous step to be completed before commencement.
- Concurrent indicates that the stage can run at the same time as another stage is being undertaken. For simplicity sake the longer stage is described as sequential, and the shorter one as concurrent, but this has no particular significance as both stages have to be completed before the subsequent stages can be undertaken.

Table 6: Case study of conversion for a uniform age shed with no shed conversion

Item	Months	Sequential or concurrent	Comment
Planning and capital	6	Sequential	
Cage order	6	Sequential	
Installation and wiring	3	Sequential	
Total	15 months		This will be the simplest conversion of shed, and therefore the minimum lead time and time out of production.
Time out of full production	3		Slightly less than 3 months because in normal operation there is a short hiatus between laying cycles to clean shed, introduce birds.

Table 7: Case study of conversion for a mixed age shed with shed alteration

Item	Months	Sequential or concurrent	Comment
Planning and capital	6	Sequential	
Consenting	9	Concurrent ⁸	District council requires notified consent for alteration
Hen run down	17	Sequential	Hens not replaced at end of laying cycle.
Shed alteration	3	Sequential	
Cage order	6	Concurrent	
Installation and wiring	3	Sequential	
Re-establish as mixed age	17	Sequential	
Total	46		The time until no hens were in old cages would be approximately 23 months.
Time out of full production	40		6 months out of full production, but from the beginning of hen run down to full reestablishment as a mixed age farm would be significant. With a linear run down on average the operator will lose 50% of their production over this period.

⁸ It is assumed for this case that the consenting will occur at the same time that the shed production is being run down.

Table 8: Case study of conversion for uniform shed to converted shed and new shed to maintain production

Item	Months	Sequential or concurrent	Comment
Planning and capital	9	Sequential	Requires design of shed
Consenting	9	Sequential	District council requires notified consent for new shed
Cage order	6	Concurrent	
New shed building	6	Sequential	
Installation and wiring	3	Sequential	
Conversion of existing shed	3	Sequential	
Total	27		The time until no hens were in old cages would be approximately 24 months.
Time out of full production	0		New shed built prior to conversion of old shed so no production hiatus

Table 9: Case study of conversion for existing 5 shed farm to colony plus new sheds for shortfall whilst maintaining even production

Item	Months	Sequential or concurrent	Comment
Initial planning	6	Sequential	Preliminary design of whole farm
Capital raising	6	Sequential	
Consenting	9	Sequential	Notified consent almost certain, however no additional delays anticipated because of site chosen
Cage order	6	Concurrent	
Building and installation of 1 new sheds	9	Sequential	6 months build, three months installation
Installation and wiring 2 conversion sheds	6	Sequential	
Build and install second new shed	9	Concurrent	
Install and wire 5 sheds	15	Sequential	
Total	51		Note need to stage conversion of existing sheds to maintain production.
Time out of full production	0		New sheds built prior to closing old sheds

Table 10: Case study of conversion for existing 5 shed farm to new farm whilst maintaining even production

Item	Months	Sequential or concurrent	Comment
Initial planning	6	Concurrent	Preliminary design of whole farm
Capital raising	12	Concurrent	
Land purchase	18	Sequential	Searching for land takes place in conjunction with initial planning
Detailed farm design	6	Sequential	Detailed design of farm given actual land purchased, construction details of sheds, grading, feed, rearing sheds etc.
Consenting	7	Sequential	Notified consent almost certain, however no additional delays anticipated because of site chosen
Cage order	6	Concurrent	
Building of 6 new sheds to replace 5 existing shed building	21	Sequential	Assume that shed takes 6 months to build, but that they are staged so that birds are introduced on a staggered basis every 3 months to maintain even production.
Installation and wiring	3	Sequential	
Total	55		Note difficulties of running farm on two sites, particularly with packing and grading, since eggs from one site would have to be double handled. Shifting a grading machine while maintaining production would be a major operation.
Time out of full production	0		New sheds built prior to closing old sheds

The analysis above uses information provided by egg producers in interviews and surveys. They have been adapted from real examples, but do not show actual producer situations for confidentiality reasons. However they are a realistic estimate of a conversion process that runs smoothly. Additional time should be added for any situation where there are problems with the conversion. The main likely delays are associated with accessing capital, and the consenting process. There is significant potential for opposition to new laying sheds and new farms, which if appealed to the Environment Court could add 6 months to 2 years to the process.

The analysis shows that the simple uniform age shed conversion should be achievable within the 2016 time frame. However anything more complex will begin to get very tight for the 2016 deadline. The process for any farmer considering building a single new shed to maintain production would have to begin immediately to be ready to change over at the end of their laying cycle because that laying cycle could add up to 12 months onto the elapsed time.

Situations that appear unachievable for the 2016 deadline are the conversion of a multi-shed operation either on an existing farm or converting to a new farm. In this situation the preparation is more complex, and the need to stage the process to maintain production means a long period is required to complete the total project. Completing a new farm even by the 2018 deadline will require an immediate start and no delays at any stage of the conversion process. The likely time delays in developing new sheds and converting whole farms has particular significance given that this describes the bigger producers who supply a large proportion of the market.

There were very few producers proposing to move to barn operations, amounting to less than 2% of bird numbers. One operator proposing moving to barns was spoken to, and the transition pathway is expected to be somewhere around the time taken for a straight colony cage conversion, perhaps although this would depend on the time taken for any required alterations to be made to the shed. There were no operators proposing moving to free range.

Production analysis

Data from the survey of farmers was used to estimate the impact of the transition on egg production. 27 out of 36 cage producers responded, representing over 90% of caged birds. Not all producers responded to all questions, and the results were scaled up to represent the industry in direct proportion to bird numbers to represent the entire industry. There is probably some skewness in this scaling because the response rate from the larger producers was higher than the smaller producers on a bird weighted basis. This means that there will be some overestimation of the conversion rates and building of new sheds because these are more prevalent among the larger parts of the industry. However it is not likely to significantly alter the overall conclusions, so has not otherwise been addressed in this analysis.

The estimate of industry response and timing is shown in Table 11 below. It suggests that approximately 30% of the current flock will remain in the same sheds, 24% in new sheds on the same land, and 24% in new farms.

Approximately 30% of birds numbers will be converted in 2016, and a similar proportion in 2022, with only 11% in 2018. The proposed conversions by the respondents match the pattern of the required transition closely.

There is an overall shortfall of approximately 20% at 2022. At the 2016 and 2018 transition dates the flock is reduced by 180,000 and 100,000 birds respectively, with a maximum cumulative shortfall of 10%. It is not until 2020 that new sheds are built in sufficient numbers to recover the birds lost in the initial transition. Inspecting the individual responses proposing new sheds in 2020, the level of expansion that would result for these producers indicates that some of these proposed new sheds may not occur. By 2022 period the large number of cages requiring conversion and few new sheds proposed means there is insufficient new construction to cover lost birds. However it should be noted that this date is a considerable distance in the future, and may not be a reliable indication of producer response at that time.

Table 11: Estimate of conversion of cage flock to colony cages

	2016	2018	2020	2022	Total	Proportion of current flock
Same shed	370,000	190,000	160,000	210,000	920,000	32%
New shed same land	210,000	10,000	360,000	120,000	700,000	24%
New shed new land	120,000	360,000	170,000	60,000	710,000	24%
Total	690,000	560,000	700,000	380,000	2,340,000	80%
Proportion of total colony cages predicted	30%	24%	30%	16%	100%	
Birds requiring conversion	870,000	660,000	390,000	1,000,000	2,930,000	100%
Proportion of cage flock requiring conversion	30%	23%	13%	34%	100%	
Difference between new colony cages and birds lost (negative indicates insufficient conversions or new sheds to cover current production)	-180,000	-280,000	30,000	-590,000	-590,000	-20%
Cumulative shortfall as a proportion of current flock (negative indicates shortfall)	-6%	-10%	1%	-20%	-20%	

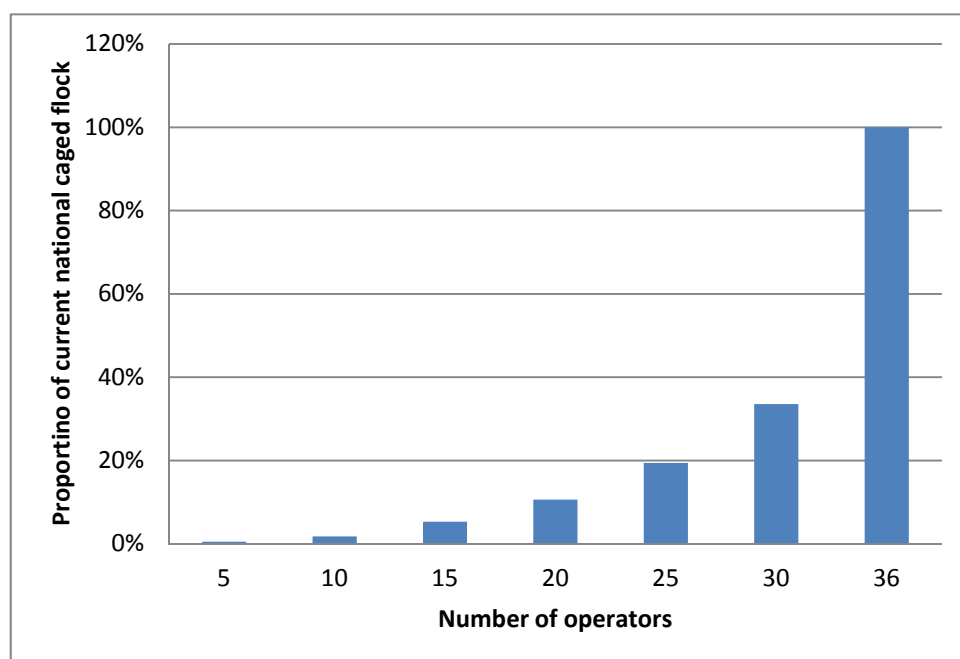
Impact of access to capital

There was some concern that producers were overestimating their ability to undertake the transition. In particular the concern is that where the producer is intending to obtain bank finance for the conversion, the banks may not be willing to lend. Thus even though the intention to convert exists, the actual conversion process may not occur. This could potentially result in a greater shortfall in birds that predicted by the survey data.

Survey data indicates that of those that responded to the question about the source of funds for their proposed conversion, 40% of the proposed new colony cage birds did not know where the funding was going to come from, and a further 17% were going to require more than 50% of the funding from bank loans. This indicates very significant uncertainty around the ability of these producers to finance the conversion to colony cages.

An estimate was made of the viability of farms using indications from the banking sector about their willingness to lend. A number of factors that may contribute to their willingness to lend are outlined in the previous section, and in this analysis scale is used as an indicator of the likelihood of operators being supported by the bank. Figure 1 shows a graph of the cumulative proportion of the industry by number of operators. It suggests that the 6 largest operators make up over 60% of the industry, and the 20 smallest operators make up 10% of the industry.

Figure 1: Cumulative proportion of national flock by number of operators



Assuming scale is going to be a primary driver, an arbitrary figure of the smallest 10% of the flock was used to indicate operations that banks might consider non-viable. This would mean that any flocks below 40,000 birds would be unable to obtain bank finance – it should be stressed that this is an arbitrary assumption for the purposes of identifying the potential impacts of bank finance on the transition and may bear no relationship to the banks’ actual lending patterns.

Using this cut-off point, 19 of the current 36 farms would not convert. Including this into the analysis of the cumulative shortfall increases the market shortfall to 11% by 2018, but this is not significantly greater than the 9% without the viability threshold given the errors in estimation. These estimates are shown in Table 12 below.

Table 12: Estimate of cumulative shortfall at transition dates removing the operators that represents the lower 10% of the national flock.

	2016	2018	2020	2022
Cumulative shortfall after smallest 10% of flock removed (negative indicates insufficient conversions or new sheds to cover current production)	-195,991	-333,729	-90,206	-744,925
Cumulative shortfall as a proportion of current flock (negative indicates shortfall)	-7%	-11%	-3%	-25%

There is potential for some of the larger producers to be non-viable depending on their business structure and debt levels. This would result in significantly larger shortfalls in bird numbers because of the increasing importance of the large producers in the industry supply profile. There is no accurate way of determining whether this is the case without assessing the individual accounts of these entities, and such an analysis is well beyond the scope of the project. However the survey data that suggests that 56%⁹ of the proposed new birds have no secure source of funding indicates that there are significant risks that remain to the transition pathway, and these risks should be noted by decision makers.

Impact of conversion downtime

The conversion of sheds to colony cages will take approximately 3 months for a simple conversion. For operators who are able to build new sheds prior to the conversion there will be no shortfall in supply. However for those operators considering only converting their sheds, there will be a 3 month hiatus in production for each shed. So for example a 4 shed farm converting sequentially over a year would lose the equivalent of a whole shed's production for that year. The impact for each shed is the same, but the larger the operation, and the longer the time frame, the more the impact can be spread out. It should also be noted that transition will always be required at some stage in the investment cycle, because equipment is being replaced as it comes to the end of its economic life. The colony cage requirements merely bring forward this requirement for change, and compress it into a shorter period.

On a national scale this can be analysed in gross terms by assuming a roughly 7 year period over which the national flock will be converted. If we assume that there will be 25% of one year's production lost over that period for each shed, it suggests that there will be ~ 3 – 4% per annum lost production simply from the conversion process. Because there are a number of situations where new sheds are built prior to the conversion of existing shed (approximately 60% of proposed production by 2022) the actual impact of the down time for existing sheds will be in the order of 2% of national production over the transition period. Clearly the longer and more even across time the conversion process occurs, the less the impact of the hiatus in production.

Impact of 2014

In 2014 all cage birds will need to be supplied with a minimum of 550cm² of cage floor area. While many producers already comply with this requirement, the survey data indicates that there is likely to be approximately a 2 – 3% reduction in the national flock as a result. In addition it will impose higher costs on producers forced to change at a time when they are making decision on transition to colony cages. On the other side however this would also increase egg prices which will improve confidence for producers in terms of investing in the conversion process.

No new sheds were identified as being likely to be built in this period, although it is noted that there are opportunities for new sheds to be built. The size of the reduction at 2014 is in the order of 60,000 birds, which would be just about met by a single large new shed of 50,000 birds.

⁹ Including those that don't know and those who require more than 50% from bank loans.

Risks

The analysis outlined above assumes:

- Reasonably stable market conditions
- No problems occurring in the building of new sheds or the conversion of existing sheds
- The continued viability of all the large producers
- The continued viability of the hatcheries and other essential industry components.

It should be noted that the analysis is therefore highly conditional, and that there is considerable potential for the whole transition process to be less clear cut than appears to be the case. The maintenance of supply requires the build of new sheds, since converting existing sheds will result in a shortfall due to the greater space requirements of colony cages. There are only 8 producers considering building new sheds, and these 8 producers cover 65% of the market, which is close to 10% of the market each. It would therefore take only one of these operations to experience difficulties, with the most likely categories being consenting or access to capital, for there to be a significant shortfall in the marketplace. The major producers have provided confidential information that indicates that they do not consider they will have converted even their 2018 sheds within the required timeframe.

While it is likely that any shortfall can be addressed in the longer term, in the early parts of the transition process it may prove difficult with other producers focused on maintaining their own supply rather than increasing market share. Over 50% of the proposed production conversion in 2016 and 2018 is intended to come from new sheds, with 40% of the proposed production in new sheds on new land.

Some caution is warranted in terms of finalising the transition period, particularly the early dates.

Discussion

While it is likely that there are a number of individual farmers for whom the transition will not be feasible, either for personal, financial or customer reasons, the analysis presented here indicates that it should be feasible for existing sheds to be converted to a colony shed within the required transition dates. What is less clear is the feasibility of the following matters:

- Converting mixed age sheds
- Building new sheds
- Converting whole farms
- Maintaining current egg production from cages whilst undertaking the conversion.

Those with multi age sheds are likely to find the transition particularly difficult because of the length of time it takes to farm out multiple laying cycles in a single shed. However the mixed age sheds are a less significant part of the total industry, and the ability of these mostly small operators to access capital is likely to be problematic regardless of the transition time frames. In addition it is probable

that there will be a mix of responses from these operators including barn conversion and non-compliance that will reduce the overall impact.

The critical issues from a policy perspective for the transition are the construction of new sheds and conversion of whole farms – the former from an elapsed time perspective, and the latter from the need to maintain continuous supply whilst converting. There is considerable cross-over between these two since many of the major, multi-shed operations will be building new sheds so that they are able to maintain their market share post conversion. They are important in terms of the overall transition because they make up a large proportion of the national egg production.

The problem with mixed age sheds is replicated with multi shed farms, where the need to maintain a continuous production cycle means that not all sheds can be converted at once. It may be difficult to ensure that the sequencing of conversion matches the sequencing of laying cycles, which means that the conversion process will need to take place over 2 – 3 laying cycles on larger operations.

It appears therefore that from a physical perspective while it is possible to convert a single shed within the time frame, the practical considerations of converting a whole operation within the time frame make the exercise problematic. It is likely that the major operations will not need to convert all their sheds at the 2016 deadline, which will ease the problem somewhat. Nevertheless the major producers have indicated that they do not consider they will have converted even their 2018 sheds within the required timeframe, which suggests that the conversion issues are greater than has been assessed through this analysis.

Capital will clearly be a significant issue in the feasibility of transition. However within the constraints of the 2022 deadline for all farms to convert, this in fact is less of an issue than it first appears. The industry analysis shows that even extending the time frame would have little impact on the ability of the marginal operations to fund the transition. The conclusion reached therefore is that the operations that can access capital within the transition time frame will do so regardless of the transition process, whilst those that struggle to access capital would struggle regardless of the transition time. There is an issue in the time taken to raise equity capital from external sources, but since it is only the larger enterprises that would be considering proceeding down this path, the problem is a very constrained one. Additional time from this perspective would be useful, but given that the larger farms will have a staggered transition under the code, the usefulness of changing the transition is likely to be limited to within a 1 – 2 year time frame.

Issues were raised with cage availability from manufacturers, installer availability, and builder availability. These were not considered to be a major barrier to meeting transition time frames. Consenting is a potential issue, particularly for new sheds and new farms. For example it would only take a single appeal on a new farm for there to be a major reduction in egg supply if the operator were to remain compliant. However for simple conversions and even shed alterations the consenting process should not represent a major delay.

From a market perspective the transition looks problematic.

The responses from the producer survey suggest that there will be a shortfall in production of ~10% - 13%¹⁰ in the early years of the transition through 2016 and 2018. It will not be until 2020 that production will come into balance, and then subsequently in 2022 it appears there will be a significant shortfall. The latter years are likely to be of lesser importance, because by that stage market dynamics will come into play, and there is a stronger likelihood that new sheds will be built to replace any lost from production at that stage. There will also be greater experience with the colony conversion process, and new land will have been accessed, presumably with scope for additional sheds should that prove needed. However in the early years of the transition the demand will be unfulfilled, and there is a strong likelihood that this will translate into reduced supply and increased prices.

These predictions of bird numbers assume that there are no problems for individual producers in terms of meeting the time frames they stated in their survey returns. It should also be noted that the survey reflects producer intentions and these intentions may change once the scale of the capital required and consenting problems are known. The risk is that a single large producer facing problems could cause significant market disruption.

In this context the critical point from above should be noted that over 50% of the proposed converted production in 2016 and 2018 is intended to come from new sheds, with 40% of the proposed production in new sheds on new land. This is will be a difficult target to hit, and is fraught with problems. Production in the early transition years could drop considerably if there are problems building the new sheds.

Thus in the view of the author, while the transition time frames are theoretically possible with all going smoothly, the practicalities of doing so mean that there is a high risk of significant disruption to the marketplace. The failure to complete the consenting of a single new farm could take 5 – 15% out of production, which in addition to the predicted shortfall in the early transition period would result in major price volatility. The alternative of allowing non-compliant behaviour in situations where best endeavours can be shown in terms of meeting the time frames would ease but not remove the problem, because it would not address the loss in production from other producers who were converting but not building new sheds.

In order to address this problem alternate transition pathways need to be considered. While these may involve more time, the key features of any changes need to be:

- Incentivising the building of new sheds early, since without new sheds egg supply will be reduced and there will be considerable market volatility.
- Flexibility around the laying cycle, so that producers are able to meet the transition pathway of their farm in a way that allows continuity in the supply of eggs.
- Maximises the length of time of the transition and the evenness of conversion over that time, so that disruptions to supply are minimised.

¹⁰ Including the impacts of current cages (2% assumed) being out of production during conversion. Note that the 2014 impact is included in the impact of all subsequent transition periods, and it not additive.

Appendix 1: Assumptions used in consenting analysis

Scenario	Assumptions
General	<ul style="list-style-type: none"> • That total bird numbers on an existing farm will stay the same; • That any existing water take permits for an existing farm will stay the same; • That any discharge to land from an existing farm will stay the same; • That no applications will be fully notified (i.e. no applications will have adverse effects beyond immediately adjacent properties). As such, applications are only likely to be non-notified or limited notified to the neighbours; and • If identified as limited notified we have assumed that written approvals have not been provided.
Alteration of Existing Shed(s)	<ul style="list-style-type: none"> • That the existing farm already has any necessary regional and district consents; • That the shed(s) will increase in building footprint, as opposed to height; • That the shed extension(s) will result in sheds being closer to the neighbouring property boundaries than they were previously; • That no emission testing or odour modelling is required as the shed is effectively staying in the same location.
Addition of New Shed(s) on Existing Farms	<ul style="list-style-type: none"> • That the existing farm already has any necessary regional and district consents; • That the new shed(s) will be built next to existing sheds, even if the old sheds are to be demolished (i.e. the demolition would happen after the new shed is constructed); • That the new shed(s) will be closer to neighbouring property boundaries than they were previously; • That the new shed(s) will result in increased overall building coverage on the property; • That both emission testing and odour modelling will be required to compare the location of the emissions from the old shed with the emissions expected of the new shed.
New Farms	<ul style="list-style-type: none"> • That any new farm will be established on a site 'fit for purpose', i.e. in a rural setting without close residential neighbours where all regional and district plan development controls can be met; • That there are no existing regional or district consents that can be relied upon to establish the new farm. • That odour modelling (but not emission testing) is required if setback is breached. Emissions testing is not possible as there is no existing farm on the site.

NB: Other potential site specific reasons for consent, such as earthworks, offal holes or contamination, have not been assessed.

Appendix 2: Survey of Farmer Intentions

A survey was undertaken in April 2013 of farmer intended response to the code of welfare. The required information was identified by the consultants, and the survey instrument was prepared by the EPF and sent out to industry members by them. The individual results were provided to the consultant for collation (following checking with respondents that this was allowable). The survey instrument is set out below.

26 out of 39 cage producers responded, representing approximately 80% of caged birds. Not all producers responded to all questions, and the results were scaled up to represent the industry on a direct proportionality basis by bird numbers to represent the entire industry. There is probably some skewness in this scaling because the response rate from the larger parts of the industry was higher than the smaller producers.



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Electronic Questionnaire

To be answered by all “Current Cage” Members of the EPF

4 April 2013

Could you please respond to the following electronic questionnaire by 10 April 2013.

This questionnaire is about your intentions in order to assess the difficulties associated with the transition. We realise that your intentions may vary in the future with changed circumstances. Please answer this questionnaire on the basis of your present knowledge and thinking. We understand that some figures will be estimates.

The information contained in the first two questions is what you have previously supplied to us, except flock size after 2014 (column 6). Could you please confirm that information (make any changes you feel necessary), fill in the expected flock size after 2014, and continue with the remainder of the questionnaire.

CONFIDENTIALITY: Your individual information is confidential to the EPF office who will supply general information (without identification) to the independent consultant Simon Harris appointed by Ministry for Primary Industries.

If you cannot complete this questionnaire online please fax to the EPF office 09 5201553.

Michael Brooks
Executive Director

Your Details

Name	
Address	
Phone	
Email	

1. Number of existing sheds on your property (click on appropriate box to select and deselect):

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10 ☐11 ☐12

2. Information about your existing sheds, cages and bird numbers (you must fill in flock size after 2014 - we have filled in the rest from you previous return)

Shed Number	Shed Age	Space/bird	Cage age	Flock size now	Flock size after 2014	Transition year required
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

If any of the above information is incorrect, please correct it on this sheet.

3. Do you intend to remain egg farming past the transition dates which affect you?

15.

☐ **Yes** (continue to question 4) / ☐ **No** (please answer the question below)

16.

17. If "No" do you intend to: (select one)

18. ☐ Farm out – close the farm at the appropriate transition date

19. ☐ Sell the farm – either as assets or as a going concern

20.

21.

22.

23. **Note:** If you are not intending to keep farming there is no need to complete the rest of this questionnaire.

24.

4. Will you keep your existing shed(s)?

Shed Number (shed number as listed in the table in question 2 and in the same order)	Will you keep this shed Y=yes, N=no (insert Y or N below)	If yes – will you replace cages with C=colonies, B=barn, FR=free-range (insert C B or FR below per shed)	If yes – what would be the new bird numbers per shed (insert bird numbers below per shed)	If yes – will you alter the breadth, length or height of the shed Y=yes, N=no (insert Y or N below per shed)	Expected date of introduction of each shed			
					By 2016 (click to select)	By 2018	By 2020	By 2022
1					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Will you build new sheds on land you already own? (Do not include existing sheds).

☐ **Yes** (continue answering questions below) / ☐ **No** (move on to Question 6)

How many new sheds you will build on land you already own?

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

List new sheds below	Shed type C = Colony B = Barn FR = Free-range (Place C, B, FR beside each new shed as appropriate)	Expected bird numbers (type number of birds for each new shed, below)	Expected date of introduction of each shed			
			By 2016 (click to select)	By 2018	By 2020	By 2022
New shed 1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 2			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 3			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 4			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 5			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 6			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 7			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 10			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Will you build new sheds on new land which you don't currently own? (Do not include existing sheds).

☐ **Yes** (continue answering questions below) / ☐ **No** (move on to Question 7)

How many new sheds you will build on new land?

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

List new sheds on new land below	Shed type C = Colony B = Barn FR = Free-range (Place C,B, FR beside each new shed as appropriate below)	Expected bird numbers (type number of birds for each new shed, below)	Expected date of introduction of each shed			
			By 2016 (click to select)	By 2018	By 2020	By 2022
New shed 1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 2			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 3			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 4			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 5			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 6			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 7			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New shed 10			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Will there be a need for extra sheds or capacity for rearing?

☐ **Yes** / ☐ **No** *(select one)*

If yes, please explain briefly in the box below:

Explain here

8. How do you expect to finance the transition of your farm to meet the new Code?

Source of funding	Percentage of total funding required (<i>insert % below</i>)	Comments
Equity – own		
Equity – others		
Bank loan		
Other loan		
Don't know		

9. **Any other comments:** (Comments that could assist consideration of the transition would be welcome)

Comment here