Summary: Intervention & Options

Department /Agency:	Title:	
Department for Environment Food and Rural Affairs	**Impact Assessment of Council Directive 2007/43/EC laying down minimum rules for the protection of chickens kept for meat**	
Stage: Consultation	**Version:** Final	**Date:**

Related Publications: 1) Council Directive 2007/43/EC 2) Partial Regulatory Impact Assessment - Welfare of chickens kept for meat production (broilers)

Available to view or download at:

http://www.defra.gov.uk/corporate/consult/broiler-welfare/index.htm

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What is the problem under consideration? Why is government intervention necessary?

There is a high level of public concern about the welfare of conventionally reared broilers and a need for a more level "playing field" for competing EU producers. There is also the need to provide more detailed level of protection for the broilers themselves; there are currently more than 600 million produced in England each year. Council Directive 2007/43/EC sets down rules protecting the welfare of broilers (meat chickens) across the EU for the first time. It comes into force across the EU in June 2010.

What are the policy objectives and the intended effects?

The Directive aims to improve welfare conditions for broilers across the EU, whilst balancing economic, social and environmental impacts. The Directive takes into account the latest scientific evidence, veterinary advice, consumer concerns and industry practice, setting conditions for the keeping of broilers from the time chicks are brought to production sites until they leave for slaughter. It is unique in that it measures welfare outcomes and provides for a feedback mechanism between delivery agents and the producer, thus identifying those who are operating at unsatisfactory levels of stockmanship. These producers will have targeted inspections, verbal or written recommendations of improvements and ultimately prosecution as a final result.

What policy options have been considered? Please justify any preferred option.

We propose to fully implement the Directive (Option 1) but are also consulting on Option 2 – which does not allow the use of a higher stocking density (over 39 kg/m^2 and up to 42 kg/m^2).

There is an additional option regarding the use of a "Grandfather Rights" scheme with respect to recognition of prior experience in lieu of training for stock-keepers but the differential in costs is not great so there is no separate high level analysis.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects? The project to implement the Directive will consider both performance targets for delivery agents and ways of measuring improvements in meat chicken welfare. The Commission will be publishing a report in 2012 which will look at the Directive's application and influence on chicken welfare

Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

....Date:

Summary: Analysis & Evidence

Policy Option: 1	Description: Full implementation of the Directive

COSTS

ANNUAL COSTS		Description and scale of **key monetised costs** by 'main affected groups'
One-off (Transition)	**Yrs**	(A) Industry: (i) Cost of compliance (one-off £13.4m; ongoing p.a. £3.2m), (iii) training/ admin costs (one-off £2.2m; ongoing £496k)
£ **15.8m**	1	(B) Government: Inspection and Enforcement (one-off £221k; ongoing £301k)
Average Annual Cost (excluding one-off)		
£ **4.0m**	8	**Total Cost** (PV) £ **44.5m**

Other **key non-monetised costs** by 'main affected groups'

Impact of regulation on consumers via potential price adjustment

BENEFITS

ANNUAL BENEFITS		Description and scale of **key monetised benefits** by 'main affected groups'
One-off	**Yrs**	Benefits are the public's stated welfare gain from improvements in broiler welfare (Nb. estimates were obtained through an externally commissioned study and are adapted to reflect subsequent Directive changes: adapted 95% Confidence Interval £73m to £136m p.a., see para. 4.8. For discussion of the equivalence of benefits under each option, see para. 4.9).
£ **0**		
Average Annual Benefit (excluding one-off)		
£ **103.0m**	8	**Total Benefit** (PV) £ **733m**

Other **key non-monetised benefits** by 'main affected groups'

Quality of management, level playing field for producers (nationally and within EU)

Key Assumptions/Sensitivities/Risks

Total industry square meters held constant at 4.7million m²; 7 flocks assumed per year.

Price Base Year 2008	Time Period Years 8	**Net Benefit Range** (NPV) £ **688m**	**NET BENEFIT** (NPV Best estimate) £ **688m**

What is the geographic coverage of the policy/option?	England
On what date will the policy be implemented?	30 June 2010
Which organisation(s) will enforce the policy?	AH, MHS & LAs
What is the total annual cost of enforcement for these organisations?	£ 301,000
Does enforcement comply with Hampton principles?	Yes
Will implementation go beyond minimum EU requirements?	No
What is the value of the proposed offsetting measure per year?	£ N/A
What is the value of changes in greenhouse gas emissions?	£ Negligible
Will the proposal have a significant impact on competition?	No

	Micro	Small	Medium	Large
Annual cost (£-£) per organisation (excluding one-off)				
Are any of these organisations exempt?	Yes/No	No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) (Increase - Decrease)

Increase of £ 15,000 p.a. Decrease of £ **Net Impact** £ 15,000 p.a.

Key: **Annual costs and benefits:** **(Net) Present**

Summary: Analysis & Evidence

Policy Option: 2	Description: Implementation of the Directive in full with the exception of the Annex V Derogation

COSTS	**ANNUAL COSTS**		Description and scale of **key monetised costs** by 'main affected groups' (A) Industry: (i) Cost of compliance (one-off £14.6m; ongoing p.a. £4.4m), (iii) training/ admin costs (one-off £2.2m; ongoing £496k) (B) Government: Inspection and Enforcement (one-off £191k; ongoing £301k)	
	One-off (Transition)	**Yrs**		
	£ **17.1m**	1		
	Average Annual Cost (excluding one-off)			
	£ **5.2m**	8	**Total Cost** (PV)	£ **54.4m**
	Other **key non-monetised costs** by 'main affected groups' Impact of regulation on consumers via potential price adjustment			

BENEFITS	**ANNUAL BENEFITS**		Description and scale of **key monetised benefits** by 'main affected groups' Benefits are the public's stated welfare gain from improvements in broiler welfare (Nb. estimates were obtained through an externally commissioned study and are adapted to reflect subsequent Directive changes: adapted 95% Confidence Interval £73m to £136m p.a., see para. 4.8. For discussion of the equivalence of benefits under each option, see para. 4.9).	
	One-off	**Yrs**		
	£ **0**			
	Average Annual Benefit (excluding one-off)			
	£ **103.0m**	8	**Total Benefit** (PV)	£ **733m**
	Other **key non-monetised benefits** by 'main affected groups' Quality of management, level playing field for producers (nationally and within EU)			

Key Assumptions/Sensitivities/Risks

Total industry square meters held constant at 4.7million m²; 7 flocks assumed per year.

Price Base Year 2008	Time Period Years 8	**Net Benefit Range** (NPV) £ **678m**	**NET BENEFIT** (NPV Best estimate) £ **678m**

What is the geographic coverage of the policy/option?			England	
On what date will the policy be implemented?			30 June 2010	
Which organisation(s) will enforce the policy?			AH, MHS & LA's	
What is the total annual cost of enforcement for these organisations?			£ 301,000	
Does enforcement comply with Hampton principles?			Yes	
Will implementation go beyond minimum EU requirements?			Yes/No	
What is the value of the proposed offsetting measure per year?			£ N/A	
What is the value of changes in greenhouse gas emissions?			£ Negligible	
Will the proposal have a significant impact on competition?			No	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	Yes/No	No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) (Increase - Decrease)

Increase of £ 15,000 p.a. Decrease of £ **Net Impact** £ 15,000 p.a.

Key: **Annual costs and benefits: Constant Prices** **(Net) Present Value**

Evidence Base (for summary sheets)

1. Introduction and Legislative Background

1.1 General welfare legislation (Council Directive 98/58/EC transposed through the Welfare of Farmed Animals (England) Regulations 2007) applies to all farm animals. Additionally the EU has agreed specific rules for pigs, calves and laying hens. Meat chickens (broilers) are a major sector not to have their own rules and the Directive will fill that gap. Diverging legislation and quality assurance schemes (containing certain welfare related aspects) exist at national level throughout the EU. The latest Defra Welfare Code for meat chickens was published in 2002.

1.2 UK meat chicken production is expected to continue at around 850 million birds per annum for the next 2 years with a value of about £880 million per annum. So it is a significant economic activity and also important as one of the best value and most popular sources of meat protein for consumers. Chicken represents over 30% of meat sold as weight and the consumption of chicken meat exceeds that of any other meat. Imports of chicken meat (mostly in the processed form) have more than doubled in the last 10 years.

1.3 The rationale for Government intervention relates to public concern about the welfare of broilers, the need for a level playing field for producers and the risk to the welfare of broilers themselves. Provision of chicken welfare is a case of market failure, as defined in the Treasury Green Book[1]. Good chicken welfare provides external benefits to people who care about animal welfare status. This means that if chicken welfare is improved, then such people will benefit whether or not they make any payment to the supplying producers. Thus the returns to producers would be less than society as a whole would be willing to pay collectively for better animal welfare. Since producers cannot capture all the benefits of improved animal welfare in the price of their products, chicken welfare will typically be undersupplied compared with what would be economically efficient. Meanwhile on the demand side those members of the public who care about the welfare of broilers typically cannot easily transact with numerous farmers for the supply of welfare they demand. This inefficient outcome provides the rationale for government to intervene by defining regulations that mandate a specific level of welfare related activities.

1.4 The welfare status of meat chickens is reflected by the results of welfare inspections carried out by Animal Health (AH). Each welfare inspection is given an overall welfare score based on the poorest of the individual scores recorded against the eleven welfare criteria assessed. The score identifies either: A) full compliance with legislation and Defra welfare codes of practice; B) compliance with legislation only; C) non-compliance with legislation; or D) non-compliance with legislation with the presence of unnecessary pain or distress. In 2007 inspections of broiler enterprises conducted where there was prior reason to believe that animal welfare might be compromised (complaint, targeted, cross-compliance targeted and cross-compliance scored risk visits) detected a level of 23.6% failure to comply with legislation (i.e. a C or D score), whereas the remaining inspections (programme, elective and cross-compliance random visits) recorded a failure rate of 2.6%. These figures show that the majority of the industry is complying with current legislation but that a minority of producers are not meeting requirements. The Directive will give us better tools to target these under-performing producers.

1.5 For most meat chicken producers we envisage that the Directive's requirements will simply build on systems, processes and best practice that are already in place on the ground.

1.6 In both the negotiation and on-going implementation of the Directive we have obtained information and views from a wide range of stakeholders. This has been in the form of formal consultation and informal meetings and discussions. A "Core Stakeholder Group" composed of representative of industry bodies and welfare groups, but acting in a personal capacity, gives on-going advice on issues raised during the implementation process.

[1] H M Treasury, 2003, *The green book: appraisal and evaluation in central government: Treasury guidance.* London: The Stationery Office. http://greenbook.treasury.gov.uk/

1.7 This Impact Assessment builds on the work carried out for the Partial Impact Assessment completed in January 2006, hence the time period over which costs and benefits are considered is 8 rather than the standard 10 years.

2. Detailed Consideration

Policy objective and effect

2.2 The Directive lays down, for the first time, specific EU wide standards for the welfare of meat chickens. It attempts to address commercial issues with solutions based on scientific evidence. It sets conditions for the keeping of chickens for meat production from the time chicks are brought to production sites until they leave for slaughter. It does not cover parent flocks, hatching of chicks, free range or organic systems. The proposal focuses on animal welfare in conventional farming systems with a minimum threshold of 500 chickens: those producers with fewer than 500 chickens are exempt from the proposal.

2.3 The Directive is unique in that it measures welfare outcomes and provides for a feedback mechanism between delivery agents and the producer, thus identifying those who are operating at unsatisfactory levels of stockmanship.

2.4 Three sets of standards are set, using stocking density as a criterion for the level of intensity of production:

i) **producers who stock up to a maximum of 33kg live weight per m^2**: would have to comply with standards relating to drinkers, feeding, litter, ventilation and heating, noise, light, inspection, cleaning, record keeping, training and surgical interventions .

ii) **producers who stock beyond a limit of 33kg live weight per m^2 up to a maximum of 39kg**: would have to comply with an additional set of standards (hereafter referred to as Annex II requirements). These include notification and documentation requirements as well as controls on holding environmental parameters such as ammonia concentrations, temperature levels and humidity standards.

iii) **producers who stock beyond a limit of 39kg live weight per m^2 up to a maximum 42kg**: would have to comply with a further set of standards (hereafter referred to as Annex V requirements) as well as those highlighted in Annex II. These include requirements relating to the satisfaction of the relevant monitoring authorities over a number of years, the following of Codes of Conduct and flock cumulative daily mortality rates.

All producers will need to comply with certain monitoring conditions at the slaughterhouse (hereafter referred to as Annex III requirements).

These Annex III requirements build on the new “farm to fork” EU Hygiene Regulations which provide a framework for the collation and sharing of data between farms and slaughterhouses. It allows the competent authorities (i.e the central authority of a Member State competent to carry out veterinary or zootechnical checks or any authority to which it has delegated that competence) to use this data to monitor and where necessary improve on farm welfare by optimising the feedback of welfare information collected at the slaughterhouse.

2.5 Additionally the Directive sets out training and guidance requirements for member states for those persons dealing with chickens. Training and guidance should be offered such that keepers have sufficient knowledge of stockmanship, especially with reference to welfare aspects. Keepers should be in possession of a certificate recognised by the competent authority, attesting to the completion of such training courses as required. The Directive allows for experience of dealing with chickens before the 30th June 2010 to be equivalent to training.

Options

2.5 Two main options are considered

- The first involves implementing the Directive fully and applying all available derogations, including allowing producers to stock up to 39 kg/m^2 where Annex II conditions are met and up to 42 kg/m^2 providing the conditions set out in Annex V are met
- The second option involves implementing the Directive and not applying the Annex V derogation therefore restricting producers to a maximum stocking density of 39 kg/m^2.

2.6 In addition to the two main options highlighted above, there is a further option relating to the potential approach taken by the Government towards provision of training for those directly responsible for broiler welfare on-farm. It is anticipated that stock-keepers who look after birds on-farm will have to have completed appropriate training leading to an assessment for a National Vocational Qualification (NVQ) in Livestock Production (Poultry). The main option is whether in addition the Government will run a scheme which recognises prior experience of existing stock-keepers and awards them certificates on the basis of their competence. Such a system is commonly known as a “Grandfather Rights” scheme and the option for Member States to provide such a scheme is contained in Article 4 of the Directive. The choice as to whether to have such a Grandfather Rights scheme can be seen to impact on the costs facing industry.

2.7 Table 1 below sets out a summary of the relevant costs and benefits applicable to each option, together with information as to their location within the document.

Table 1 : Summary of Costs and Benefits and their respective location throughout the document	**Option 1**	**Option 2**
Costs		
Annex 1 (1)		
One-Off	£1,706,474	£1,706,474
Ongoing	£464,219	£464,219
Annex 2 (2)		
One-Off	£8,630,472	£8,630,472
Ongoing	£135,348	£135,348
Stocking Density (3)		
Off	£3,008,246	£4,375,630
Ongoing	£2,643,002	£3,844,367
Training (4)		
One-Off	£2,198,602	£2,198,602
Ongoing	£480,844	£480,844
Inspection and Enforcement (5)		
One-off	£221,307	£191,157
Ongoing	£301,203	£301,203
Admin Burden (6)		
One-off	£16,819	£10,713
Ongoing	£15,202	£15,202
PVC Ongoing (8 years)	£28,741,453	£37,288,615
Total PVC	£44,523,374	£54,401,663
Benefits (7)		
Ongoing	£103,000,000	£103,000,000
Total PVB	£732,798,030	£732,798,030
NPV	£688,274,656	£678,396,367

1. See paragraphs 3.7 – 3.11
2. 3.12 – 3.16
3. 3.17 – 3.25
4. 3.26 – 3.30
5. 3.32 – 3.34
6. 3.35 - 3.36
7. 4.1-4.14

3. Costs

3.1 ADAS and the University of Exeter were commissioned to assess the likely costs to the broiler chicken industry in England of a welfare Directive for broilers. Their work involved a survey in summer 2005 of a representative sample of 82 conventional broiler producers in England, 30 by on-farm interviews and 52 by telephone. This updated an earlier 2002 study by the University of Exeter[2]. Producers were asked about their current chicken housing and management, whether they would need to make changes to these as a result of a Directive and what they would estimate the costs of any changes to be.

3.2 Producers reported an average sale price of 123.9p/bird and total costs of production of 122p£/bird in their most recent flock. Net margin was thus about 1.9 p£/bird, compared with 3p£/bird in 2002. An earlier series of workshops conducted by ADAS in 2004 with broiler producers resulted in all workshop groups stating it would be uneconomical to stock at a limit of 30kg/m^2. Hence it is expected that almost all conventional producers would choose to apply the higher stocking density limit and comply with the Annex II requirements.

3.3 Costs have been updated to take account of changes in the prices since 2005 of the different goods and services which were considered in the ADAS survey. This was done using an index of prices for private industrial construction, fuel and light, agricultural input prices, poultry prices and agricultural wages so that all costs are now in a 2008 price base.

3.4 The stocking densities and a number of the Annex II requirements have changed from the original directive proposal on which the initial RIA and the ADAS/UofE research was based. Using a number of assumptions we have approximated how this would affect the costs given in the report to make it relevant to the final Directive. For more detail on the method used to approximate the new figures please see annex B.

Businesses affected

3.5 It was estimated that there are approximately 1,532 holdings with meat chickens in England and currently, over 600 million chickens are produced for meat in England each year, of which the ADAS/UofE study estimated:

- Approximately 4 % are produced at stocking densities below 30kg/m^2 - these establishments would need to comply with the minimum standards set out in Annex 1 of the Directive.

- Approximately 80% are produced at stocking densities between 30kg/m^2 and 38kg/m^2 - these establishments would need to comply with the enhanced Annex II standards.

- Approximately 16% are produced at stocking densities above 38kg/m^2 - these establishments would need to reduce stocking density and comply with the Annex II requirements or maintain their stocking density and comply with the Annex V requirements if this option is open to them.

3.6 Five companies control 80% of UK chicken production. A significant proportion of chickens are reared on integrator-owned farms with the remainder reared by independent farmers on contract to one or more integrated companies.

Annex I Costs

3.7 Annex I costs refer to the various costs of additional requirements applicable to all broiler producers. In the original ADAD/UofE study, the costs of these requirements were assumed to be negligible.

3.8 Since the ADAS/UofE study however, one of the requirements relating to lighting originally required under Annex II (see below) has since become an Annex I requirement, and hence applicable to all producers. This means that the 4% of producers that stock broilers below 33kg/m^2 will now face the costs of potentially having to upgrade lighting, as well as those stocking at greater than 33kg/m^2 levels.

3.9 It has been assumed that the original proportion of producers who would have to upgrade to comply with the lighting requirements for Annex II, 48%, is likewise the same for those producers

[2] "The structure and Economics of Broiler Production in England" Andrew Sheppard, June 2004

currently stocking below 33kg/m^2. Hence the Annex II lighting costs have been amended to reflect the additional producers that would be required to upgrade lighting following the adjustment to the Directive.

Capital costs

3.10 Taking account of the proportion of producers who indicated they would need to upgrade their capital equipment to comply with this lighting requirement, the one-off costs to the industry as a whole will be £1.71m. For a typical 100,000 bird unit, taking into account the likelihood of change this cost was £2,000.

Table 2: One-off Annex I capital costs

	Proportion of Original Costs from Study that Apply	Percentage of producers who would have to upgrade to comply	Lowest individual cost given (per sq m)	Highest individual cost given (per sq m)	Mean Cost (per sq m)	Max Mean Cost typical 100,000 bird unit	Cost to "typical" unit - taking into account likelihood of change	Mean Cost to industry (allowing for % in need of upgrade)
Lighting requirement	100%	47.92%	£0.21	£5.66	£0.76	£4,149	£1,988	£1,706,474

Ongoing costs

3.11 For the holdings that need to upgrade their capital in order to comply with the Annex I criteria there will also be an increase in annual production costs. For the industry this is estimated to be approximately £464,000 per annum. Taking into account the likelihood of needing to upgrade their capital, this works out as a cost to a typical 100,000 bird unit of approximately £500 per annum.

Table 3: Ongoing Annex I lighting costs

	Proportion of Original Costs from Study that Apply	Percentage of producers who would have to upgrade to comply	Cost (£) per sq m	Cost to typical unit	Cost to "typical" unit - taking into account likelihood of change	Cost to industry (allowing for % in need of upgrade or change)
Lighting requirement	100%	47.92%	£0.21	£1,128.76	£541	£464,219

Annex II Costs

3.12 Annex II costs refer to the various costs of additional requirements applicable to those producers wishing to stock at density levels greater than 33 kg/m^2. These include ammonia and humidity levels, temperature requirements and additional documentation.

3.13 This IA extrapolates from the ADAS/UofE survey responses to estimate total costs to broiler producers in England at industry level. Annex II costs will be the same for both options 1 and 2 as holdings will have to comply with these same minimum requirements whether the higher stocking density limit of 42kg is applied or not.

Annex II Costs for Options 1 and 2

Capital Costs

3.14 In order to comply with Annex II requirements and be allowed to stock at the higher level it was determined in the ADAS/UofE study that a number of holdings would have to upgrade their capital in order to comply. Complying with the Annex II requirements entails a number of capital costs arising from the need to improve ventilation, heating and documentation to ensure the minimum welfare standards as laid out in Annex II are being met.

3.15 Taking account of the proportion of producers who indicated they would need to upgrade their capital equipment to comply, the one-off capital cost to industry was estimated at £8.6m. For a typical 100,000 bird unit taking account of the likelihood of change the cost was estimated to be £10,000.

Table 4: One-off Annex II requirement costs

	Proportion of Original Costs from Study that Apply	Percentage of producers who would have to upgrade to comply	Lowest individual cost given (per sq m)	Highest individual cost given (per sq m)	Mean Cost (per sq m)	Max Mean Cost typical 100,000 bird unit	Cost to "typical" unit - taking into account likelihood of change	Mean Cost to industry (allowing for % in need of upgrade)
Ammonia & humidity	100%	20%	£0.34	£5.66	£2.07	£11,338	£2,268	£1,946,195
Temperature lift	100%	30%	£0.35	£14.82	£4.63	£25,364	£7,609	£6,530,788
Recording (of humidity etc)	0%	60%	£0.07	£16.99	£1.06	£0	£0	£0
Documentation	30%	10%	£0.02	£0.57	£0.18	£298	£179	£153,489
					Total	£36,999	£10,055	£8,630,472

Ongoing Costs

3.16 For the holdings that need to upgrade their capital in order to comply with the Annex II criteria there will also be an increase in annual production costs. For the industry this is estimated to be approximately £135,000 per annum. Taking into account the likelihood of needing to upgrade their capital, this works out as a cost to a typical 100,000 bird unit of approximately £160 per annum.

Table 5: On-going Annex II requirement costs

	Proportion of Original Costs from Study that Apply	Percentage of producers who would have to upgrade to comply	Cost (£) per sq m	Cost to typical unit	Cost to "typical" unit - taking into account likelihood of change	Cost to industry (allowing for % in need of upgrade or change)
Ammonia	100%	20%	£0.08	£415	£83	£71,236
Temperature lift	100%	30%	£0.05	£249	£75	£64,112
Recording (of humidity etc)	0%	60%	£0.00	£0	£0	£0
			Total	£664	£158	£135,348

Stocking Density Requirement Costs

3.17 The Directive allows stocking of up to 39 kg/m^2 provided the welfare criteria set out in Annex II of the Directive are met. In practice holdings will stock at 38 kg/m^2 in order to provide a safety net to assure they do not accidentally exceed the maximum stocking density. The need for a safety margin was set out in the ADAS/UofE study and the cost of meeting this requirement is extracted from that report. For option 2, all producers who stock above 39 kg/m^2 will have to come down to a level of 38 kg/m^2.

3.18 Following discussion with key industry stakeholders, under option 1 around 5% of the total number of holdings are expected to stock above 39kg/m^2 and comply with Annex V criteria. The remaining 11%

of holdings currently stocking above 39kg/m^2 are expected to be reducing stocking densities below the 39 kg/m^2 threshold.

Option 1 Costs of Reducing Stocking Density

3.19 For the 84% of the industry which stock at 38 kg/m^2 or below there will be no cost in terms of complying with the stocking density requirement; of the remaining 16%, around two-thirds will reduce their stocking density. For those producers reducing stocking density, there are two responses available – either they could choose to raise fewer birds in the same houses or they could extend their accommodation to replace the capacity lost and rear the same number of birds. Regardless of their choice, producers who reduce stocking density would face higher production costs, as the same fixed costs per square metre (heating, lighting etc) are spread over fewer birds. If they choose to raise fewer birds then their turnover would fall and total net margin would be reduced. If the accommodation is extended or more houses are built to replace lost capacity then there would be capital costs incurred.

3.20 ADAS/UofE found that 30% of producers would achieve the reduction by building new capacity at a one-off capital cost of £2.2m.

3.21 The remaining 70% would reduce stocking density by rearing fewer birds. This would impact on their annual production costs and net margin. The increased annual production cost and loss of net margin for both holdings rearing fewer birds and those investing in new capacity was estimated to be £1.9m. For a typical broiler unit of 100,000 birds this is a one-off capital cost of around £60,000 with ongoing costs of around £15,000 per annum.

Table 6: Option 1 costs of reducing stocking density

Percentage Not Adopting Annex V Derogation	69%		
Impact on Capital Costs (one-off)			
	Typical 100k	**Cost per Bird needing re-housing**	**Total Industry**
Currently stock at 38	£0	£0.00	£0
Over 38 (30% build new capacity)	£57,964	£6.08	£3,008,246
Impact of Production costs (pa)			
	Typical 100k	**Cost per Bird**	**Total Industry**
Currently stock at 38	£0	£0.00	£0
Over 38	£14,538	£0.02	£2,509,467
Impact on net margin (pa)			
	Typical 100k	**Cost per Bird**	**Total Industry**
Currently stock at 38	£0	£0.00	£0
Over 38 (70% reduce capacity)	£1,065	£0.00	£133,536
Totals	£73,566		£5,651,248
		One off	£3,008,246
		Ongoing	£2,643,002

Option 1 Cost of Complying with Annex V Criteria

3.22 The key additional cost relating to adherence to the Annex V derogation concerns the requirements regarding flock mortality as set out in the Directive. The Directive states that the cumulative daily mortality rate for each of seven successive flocks from a house should be less than 1% plus 0.06% multiplied by the slaughter age of the flock in days. For a standard slaughter age of 42 days, the cumulative mortality level can therefore not exceed approximately 3.5% for a given flock, which given an crude average mortality rate of 4.1% as estimated by ADAS/UofE, is likely to be challenging. Note that no association between mortality and stocking density is inferred, based on previous research conducted by Dawkins et al. in 2003 (Defra project AW0219 – 'Effect of stocking density and welfare on broilers').

3.23 It is extremely difficult however to assess the cost imposed on the industry relating to this requirement. Much depends upon the individual keepers representing the 5% of industry that expect to maintain the highest stocking density threshold, in terms of current house mortality rates and potential responses to early observed mortality rates for a house. Specific knowledge regarding these factors is limited, but it is possible to define a range of costs that are applicable to each of the holdings. At one end of the range, holdings may find compliance with mortality rates impossible or prohibitively costly and have to reduce stocking densities below the 39 kg/m^2, with the associated costs discussed further below. In the instance where no holdings are able to meeting the mortality requirements, the effective costs of reducing stocking density are effectively equalised under both options. On the other hand, a holding may not need to adjust behaviour at all in order to meet mortality requirements and hence incur no additional costs.

3.19 We might expect that the holdings choosing to continue to produce at these highest stocking levels will have good stockmanship practices and good welfare standards already, which will potentially limit the size of these costs. This is especially true when coupled with a possible impact on mortality rates relating to implementation of Annex II requirements. At this stage these costs are therefore assumed to be negligible.

Option 2 Cost of Reducing Stocking Density

3.24 In this option, holdings stocking at 42 kg/m^2 (16% of holdings) cannot take advantage of the Annex V derogation to stock up to 42 kg/m^2 and therefore all holdings will have to reduce stocking densities to 38 kg/m^2 (this includes a 1 kg/m^2 safety margin).

3.25 Once again it is assumed that 30% of holdings stocking at 42kg/m^2 will build new capacity at a one-off capital cost of £4.4m. These holdings and the remaining 70% who reduce bird numbers will face an ongoing increase in production costs and loss of net margin at a cost of £3.8m per annum. For a typical broiler unit of 100,000 birds this is a one-off capital cost of around £85,000 with ongoing costs of around £23,000 per annum.

Table 7: Option 2 cost of reducing stocking density

Percentage Not Adopting Annex 5 Derogation	100%		

Impact on Capital Costs (one-off)

	Typical 100k	Cost per Bird needing rehousing	Total Industry
Currently stock at 38	£0	£0.00	£0
Over 38 (30% build new capacity)	£84,311	£8.85	£4,375,630

Impact of Production costs (pa)

	Typical 100k	Cost per Bird	Total Industry
Currently stock at 38	£0	£0.00	£0
Over 38	£21,146	£0.03	£3,650,133

Impact on net margin (pa)

	Typical 100k	Cost per Bird	Total Industry
Currently stock at 38	£0	£0.00	£0
Over 38 (70% reduce capacity)	£1,549	£0.00	£194,234
<u>Totals</u>	£107,006		£8,219,997
		One off	£4,375,630
		Ongoing	£3,844,367

Training Costs

3.26 The Directive states that member states must be responsible for ensuring that keepers have received sufficient training in their tasks. It is expected that the training cost will be unaffected by the choice of option.

3.27 The costs associated with training fall primarily on the industry. It is expected that poultry stock-keepers will each require an NVQ Level 2 in Livestock Production (Poultry), which is designed by Lantra (the sector skills council for agriculture) and awarded by the National Proficiency Tests Council (NPTC). This links in with the work of the poultry industry's "Poultry Meat Training Initiative".
The main costs involved relate to the NVQ "assessment of competence", which is estimated to cost around £1500 per applicant. It is not envisaged that the level of training required to successfully complete the NVQ will be substantially greater than that developed via on-the-job training, although the estimated ongoing costs for individuals joining the industry allows for additional time requirements related to NVQ specific activities.

3.28 An exception to the NVQ Level 2 requirement for stock-keepers concerns the potential for existing skilled stock-keepers to be awarded a certification recognising prior experience. This is frequently known as a "Grandfather rights" scheme and is provided for in Article 4 of the Directive. In this instance stock-keepers working within the industry prior to 30th June 2010 and for a limited time period after would be eligible to apply for certification exempting them from the training requirement, on payment of a small administration fee. It is estimated that around 20% of those stock-keepers currently involved in the industry would apply for Grandfather Rights, with 70% choosing to complete the NVQ assessment and 10% already having the required qualification.

3.29 The choice of allowing Grandfather rights impacts the estimated one-off cost to industry by approximately £500K, lowering the industry costs from £2.7m to £2.2m. Although allowing Grandfather

Rights will potentially increase the costs to the competent authority in terms of processing applications and providing certification, these costs are assumed to be factored into the applicant administration fee. Hereafter cost calculations relating to training assume the possibility for Grandfather Rights.

3.30 On an ongoing basis, the costs to industry are dependent on the number of new stock-keepers expected to join the industry, estimated to be around 300 per year. The ongoing costs reflect both the costs of assessment as well as additional costs of applicant time regarding the NVQ above and beyond standard industry training. These costs are estimated at £480K per annum.

Table 8: Training costs

Training costs	NVQ Level 2
One-off	
Grandfather Rights	£2,198,602
No Grandfather Rights	£2,693,250
Ongoing	£480,844
Ongoing PV (8 years)	£3,420,983
Total with Grandfather Rights	£5,619,585
Total without Grandfather Rights	£6,114,233

Inspection and Enforcement

3.31 This would involve implementing the directive with the inspection regimes and data systems of the Meat Hygiene Service (MHS) and Animal Health (AH). These bodies would be solely responsible for checking compliance with the Annex II and V criteria to allow the use of derogations permitting higher stocking densities.

Costs to Government (Inspection and Enforcement)

3.32 The MHS has produced estimates of what it would cost them for their part in enforcing the Directive. Based on current OVS and PMHI charge-out rates, they suggest start up costs (training staff, policy work, IT development costs and amending the MHS Operations manual) would be £81,000. The ongoing costs to the MHS is estimated at £82,000, based on data collection and monitoring costs.

3.33 The one off costs applicable to AH are based on administration costs, system development costs and the costs of visiting all holdings choosing to stock at the higher Annex V level. Together these costs total £171,000. Note that the one-off costs of visiting all holdings choosing to stock at the highest level are only applicable under the first option: under option 2 no holdings are permitted to stock at this higher Annex V level. On an on-going basis, around 270 visits to holdings due to non-compliance issues are expected, with an additional 30 holdings receiving telephone based interviews. Additionally the costs of staff training, administration and on-going system development have been factored in by AH, leading to a per annum cost of £261,000.

3.34 Thus the total enforcement cost is expected to be £342,000 per year, with one-off costs of £252,000 under option 1 and £217,000 under option 2. These costs are estimated on a GB basis. Apportioning this total, the anticipated enforcement cost in England is expected to be £301,000 per year, with initial implementation costs of £221,000 for option 1 and £191,000 for option 2.

Cost to Producer (Admin Burden)

3.35 One implication of the scheme would be a requirement for producers to contact AH to register specific information with them. This information requirement is reduced by the fact that much of the information required has already been provided as part of the GB Poultry Register: indeed the primary additional information required would be house stocking levels. This will lead to an administrative burden to the farmer, which can be estimated as the costs of completing and returning a form provided by MHS. The cost to the industry overall is estimated to be a one off cost of £11,000.

3.36 There would also be some further costs to the industry from enforcement. These costs refer to the farmers time to facilitate additional inspections as a result of the Legislation, and to respond to any welfare reports made. On an on-going basis, whereby 300 additional visits are expected to UK farms (around 230 English farm visits), the estimated admin costs to the English industry is £15,000. Under option 1 where a small proportion of holdings may choose to adopt the Annex V derogation, an additional one-off industry cost of £6,000 is expected relating to the planned mandatory visit by AH.

Animal Health Inspection and Enforcement using ACP for Risk Based Inspections

3.37 We are currently considering a possible role for assurance schemes such as Assured Chicken Production in delivery agents risk based inspection models.

Costs: environmental

3.38 The potential additional environmental impact relates to the impacts of the additional capital requirements, such as the impact of additional lighting or heating regulation. The impacts are estimated to be negligible however.

Summary of Costs

3.39 Table 9: Summary of costs

	Option 1	**Option 2**
Costs		
Annex 1		
One-Off	£1,706,474	£1,706,474
Ongoing	£464,219	£464,219
Annex 2		
One-Off	£8,630,472	£8,630,472
Ongoing	£135,348	£135,348
Stocking Density		
One-Off	£3,008,246	£4,375,630
Ongoing	£2,643,002	£3,844,367
Training		
One-Off	£2,198,602	£2,198,602
Ongoing	£480,844	£480,844
Inspection and Enforcement		
One-off	£221,307	£191,157
Ongoing	£301,203	£301,203
Admin Burden		
One-off	£16,819	£10,713
Ongoing	£15,202	£15,202
PVC Ongoing (8 years)	£28,741,453	£37,288,615
Total PVC	£44,523,374	£54,401,663

Summary of Costs to a Typical (100K) Broiler Unit

3.40 All producers will be required to fulfil the requirements set out in Annex I of the Directive. For a typical producer, who produces seven flocks of 100,000 broilers a year, the capital costs (spread evenly over 10 years) is estimated to be £740. If, as would be the case for the minority of producers, full investment in capital costs were required, then the producer could face costs of £1,500.

3.41 Almost all producers are expected to apply for the higher 39kg/m^2 density limit and comply with the Annex II requirements. The likely cost of the Annex II requirements in the Directive to a typical producer, who produces seven flocks of 100,000 broilers a year at a maximum stocking density of 39kg/m^2, (spreading the capital costs evenly over 10 years) is estimated to be £1,100 per annum. If, as would be the case for a minority of producers, all aspects of the Annex II requirements were currently unfulfilled then the producer could face costs of approximately £4,400 per year.

3.42 For the majority of producers, around 84%, that stock up to 38kg/m^2 there would be no additional cost requirements relating to stocking levels. Additionally there are no additional costs assumed for the 5% of producers that are estimated to continue to produce at stocking densities above 39kg/m^2. For the remaining 11% of producers that currently stock above the 38kg/m^2, the costs of meeting the stocking density limit of 39kg/m^2 would vary depending upon whether fewer birds are kept or additional capacity is constructed. In the first instance yearly costs would be approximately £22,700; where capacity is increased costs spread over a 10 year period would be £8,400, plus the same annual production costs of £21,200. Based on this evidence reducing bird numbers appears the sensible choice for the average producer that will reduce stocking density.

3.43 All holdings would also have to pay for staff training, which would amount to around £560 per annum and a one-off cost of £2,600. This assumes 2.34 individuals working on the typical Broiler unit and an industry turnover of 300 per year.

3.44 Additionally there would be an industry admin burden from the new regulation, but for a typical unit these costs are negligible.

3.45 Thus the overall cost of the Directive (including training and enforcement costs) to a typical conventional producer is approximately £2,700 per annum (spreading the capital costs evenly over 10 years). These costs increase substantially with the number of Annex II requirements that are unfulfilled and if the holding stocks at levels greater than 39kg/m^2. These costs are significant when compared to estimated net margins for a typical 100K broiler unit of £13,300 per annum, although this excludes any potential efficiency gains as a result of the Directive, which would help to partially offset some of these costs.

4. Benefits

4.1 As a result of the Directive, the welfare of chickens kept for meat would be improved without producers being disadvantaged by imports produced to lower standards elsewhere in Europe.

4.2 Consumers would have greater reassurance as to the welfare standards, which have been applied in the production of chickens for meat. The welfare of broilers can be considered a public good. The original RIA commissioned research to estimate the size of this public good by carrying out economic analysis to elicit the public's "willingness to pay" for welfare improvements, as recommended by the Treasury Green Book. As the Directive has changed since then we have sought to approximate what these changes would mean in terms of benefits.

4.3 This research utilised stated preference techniques (both contingent valuation and choice experiment methodology) and a survey of a representative sample of the English public to estimate the non market benefits of the whole Directive to the public, and the benefits of the various aspects contained within it. The use of these techniques is fully discussed in the Treasury Green Book.

4.4 The study estimated the overall value of the original proposed Directive using the survey-based method of "contingent valuation". Respondents were asked how much they would be willing to pay in the form of additional taxation per year to improve the welfare of chickens in line with the Directive proposals. The aggregate policy benefit was estimated to be £158 million per year (with 95% confidence interval £112 million to £209 million). The annual willingness to pay per household was £7.53.

4.5 The study also used a choice experiment to explore preferences for different welfare attributes (stocking density, incidence of footpad lesions, ventilation and period of darkness). Respondents made choices between paired options with differing welfare attributes and prices. Analysis of the choices then allowed the different attributes to be ranked according to importance to the public.

4.6 As shown in Table 10 the general public place the highest value on reducing stocking density. The second most valued attribute is a reduction in footpad lesions, followed by ventilation and, lastly, periods of darkness.

Table 10: Weighting the benefits of movement between attribute levels

Attribute	**Weighting**
Stocking density: Change from 38 kg/m^2 to 30 kg/m^2	1.00
Footpad lesions: Change from 15% of flocks failing to 5%	0.77
Ventilation: Change from low to intermediate	0.69
Period of darkness: Change from 4 hours to 8 hours continuous	0.25

4.7 The whole Directive was then assessed using the choice experiment data to compare the public valuation of the benefits for different alternative packages of welfare standards in the Directive. This choice experiment is used to help approximate how the original contingent valuation figure for benefits would change given the changes present in the final Directive compared with the proposal on which the benefits study was originally based.

4.8 It is important to note that the welfare standards of the final Directive could not be exactly matched to those on which the valuation study was based. It has therefore been necessary to adjust the benefit value to generate the closest approximation of the welfare gain. The adjustment has been calculated using estimates obtained from the Choice Experiment: it transpires that the estimated value to the public of the final Directive is approximately the 65% of the original benefits (see Table 11). **Therefore applying this to the contingent valuation estimation of benefits gives an overall benefit**

from this legislation of £103m per annum, with a adjusted 95% Confidence Interval of £75m to £136m.

Table 11: Additional benefit

Chicken welfare standards	**Additional benefit [(a)] (£/kg chicken)**
Current situation	£0
Original Proposed Directive, all producers 38kg/m^2, 5% of Chickens with footpad lesions, Ventilation High	£4.69
Final Directive (closest approximation), all producers 38kg/m^2, 10% of Chickens with footpad lesions, Ventilation high.	£3.06

(a) Note that these should be used as relative values to compare different attributes. They may be overestimates of absolute value derived. The assessment is not complete because not all the elements of the regulations were included in the research.

4.9 The study found that the public's valuation of the benefits were approximately the same whether producers chose to produce at 30kg/m^2 or apply the Annex II derogation and stock at a higher level. The general public consider the benefits of the Annex II requirements to be approximately the same as those of a reduction in stocking density from 38kg/m^2 to 30kg/m^2. This assessment supports the element of flexibility within the Directive, which effectively allows producers to provide an equivalent level of welfare benefits to the public whilst minimising their own costs (producers would decide on which option they take based on their costs). Allowing stocking up to 42 kg/m^2 is likewise dependent on the application of additional welfare standards and monitoring (Annex V criteria). We thus draw the same conclusion as observed in the study regarding the public's valuation of the benefits: benefits are approximately the same whether producers chose to produce at 38kg/m^2 or apply the Annex V derogation and stock at the higher level. **Applying this conclusion means that the public's benefits under option 1 and option 2 are therefore approximately equivalent.**

Issues of Equity and Fairness

4.10 Although prior consideration of costs and benefits has focussed on aggregate levels, it is also necessary to take account issues of fairness relating to variation in consumer preferences and producer costs. Not all individuals are necessarily interested in or concerned about animal welfare and/or concur with the view that changing standards would bring welfare benefits.

4.11 As described above the average benefit from the Directive to the public was £4.89 per household per year following adjustment (65% of the original £7.53). However this includes a range of different valuations of the benefits of the Directive. After eliminating "protest bids", as is good practice in such research, there remained almost one in four respondents (23%) who expressed a willingness to pay of zero. If as the costs to producers rise the price of chicken rises then, assuming they eat chicken, these people would incur additional costs, for no benefit.

4.12 When the sample was analysed by social grade (a classification based on type of occupation), the higher social grades A, B and C1 showed average willingness to pay £7.21 per household per year, compared to £3.06 for social grades C2, D and E. Those in higher social grades were also less likely to give a willingness to pay response of zero.

Table 12: Non market benefits of the Directive to different social groups

Consumer Group	Willingness To Pay (£ per household per year)	Aggregate benefit (£ per year)
ABC1 households	£7.21	£72.3 million
Other households	£3.06	£30.7 million
Total		£103 million

4.13 Those in higher social grades, roughly 50% of the population, would derive around 70% of the benefits from the Directive. Since social grade is used as a proxy for income this result is unsurprising – those in higher social grades would have a greater ability to pay for increased chicken welfare.

4.14 It is not easy to forecast the extent to which the industry costs would be passed on to consumers, as this depends on market conditions and the balance between demand and supply. The most likely outcome is that reductions in supply would result in producer prices higher than they would otherwise have been. If it is assumed that a price increase affects all products equally, that chicken consumption levels are broadly similar across social grades and that consumption levels are relatively unaffected by price changes, lower social grades may face a larger proportionate cost from the measure.

5. Competition

5.1 As previously mentioned, the UK poultry meat industry is characterised by a high degree of concentration, with five companies controlling 80% of chicken production. The main companies are vertically integrated, and have a diverse product range to include other meats and prepared foods. The majority of broilers are reared in units either owned and operated by one of the large companies or having a close contractual relationship. The industry is not characterised by rapid technological change.

5.2 The ADAS/Exeter study suggests that the impact of the Directive would not be evenly felt by producers. Large units owned by the major companies for example are relatively unconcerned about the temperature lift requirement, whereas small independent producers are more likely to have to upgrade to meet this requirement. The independent producers that would need to upgrade in order to meet the temperature lift requirement are also concerned about the lighting and humidity requirements. These small (typically approximately 40,000 birds per flock) non company producers therefore face much higher compliance costs compared to a large company producer with a typical flock size of over 100,000. It is unlikely that these small non company producers would chose to invest the money to upgrade their accommodation, since even if the cost to an average firm of the Directive could be passed on to consumers via higher prices, this would still not cover their costs. They would therefore leave the industry.

5.3 Table 13 below shows the impact of the Directive on producers if half of the costs of the Directive are passed on to consumers through a general increase in the price of chickens equal for all producers.

Table 13: Costs to different categories of producer per holding per year

	Costs	**Benefits (50%)**	**Net Costs**
Producers requiring significant investment	£5,762	£1,760	£4,001
Producers not requiring significant investment	£3,351	£1,909	£1,442

5.4 This scenario demonstrates the differential impact according to whether or not the farmer needs to make significant investment to meet the Annex II requirement (particularly temperature lift). Those farmers needing to invest because of the condition and design of their buildings would experience a net loss from the Directive together equivalent to £2 million a year. Cash outflows would be concentrated in the first year of implementation as buildings were upgraded. The larger category (about two thirds) of producers who do not require major investment, would also experience a net loss but this would be considerably less damaging as this category includes more and larger units.

5.5 It is unlikely that there would be any significant extra set-up or ongoing costs to firms entering the industry when compared to the costs that existing firms would need to meet under the Directive. One potential area of difference relates to Grandfathering of training certification, whereby experienced poultry handlers may not have to complete the training requirements as specified by the regulator. The potential for on-the-job training, high industry turnover and the proportion of the current industry not expected to take up Grandfathering rights if offered helps to limit this cost.

5.6 The Directive would affect the mix of price and quality of products offered to consumers, in that chicken produced at lower cost in higher density units would be unavailable. The impact on retail prices would be relatively minor, however would impact on some low income consumers who express a lower willingness to pay for the benefits to chicken welfare.

5.7 The market for chicken meat is also subject to imports from other countries. Imports have increased significantly in recent years and account for around 30 % of the overall market. The UK imported over 350,000 tonnes of chicken meat, worth £650 million, between January and September 2005. Three quarters of imports are from EU member states, particularly Netherlands and France. One quarter is from third countries, mainly Thailand and Brazil, almost entirely in frozen or processed form. The majority of all imports are frozen or processed, and typically move into catering and manufacturing. These are distinct sectors characterised by intense price competition. The costs of broiler production in the UK are currently slightly higher than those of other EU member states, and are significantly higher than those of the USA, Brazil & Thailand.

5.8 Research by Van Horne at LEI Wageningen ("Cost Price Development in Broiler Meat" – LEI, Wageningen, The Netherlands, 2002) set out to calculate the costs of broiler meat production (primary cost plus processing cost) in 4 European countries and to compare them with the corresponding costs in Brazil and the USA (Table 14).

Table 14: Comparative costs of broiler production, the UK, France, Germany, the Netherlands, USA and Brazil

Country	**EUR per kg ready-to-cook weight***
UK	1.40
France	1.37
Germany	1.36
Netherlands	1.34
USA	1.05
Brazil	0.87

*Ready to cook weight (RTC) is about 70% of live-weight.

5.9 Table 14 clearly shows the UK's small cost disadvantage compared to other EU countries (3% compared to the average of France, Germany and the Netherlands) and its considerable disadvantage compared to the USA (33%) and Brazil (61%).

5.10 Implementation of the proposed Broiler Welfare Directive would inevitably increase production costs for UK broiler producers, both through increased production costs and the need to service new and additional capital investment. If all EU member states implement the Directive to the same extent and over the same time frame, the competitive position of UK broiler producers relative to their EU competitors would not be affected. The competitive position of EU countries relative to the USA, Brazil and Thailand could be expected to further deteriorate. However, given the existing cost differentials, it is unlikely that this small increased disadvantage would have a significant effect on producers.

5.11 In summary, although a few firms are likely to leave the industry as a result of the Directive, the majority of large company owned producers would stay. Although the Directive would impose higher costs on some firms, these are firms that were previously producing to a lower welfare standard, whilst those which have already invested in producing to high welfare standards would be less affected. The effects on competition would be few, since alternative products, and imported chicken, would continue to be readily available.

6. Small firms impact test

6.1 The nature of the broiler industry is such that most if not all individual holdings employ a very small numbers of individuals. Despite this however some consideration of the impact on small businesses is required, given that the majority of the industry is dominated by a small number of large producers, which maintain control of numbers of holdings. It could potentially be the case that the holdings under control of these large producers are affected in a different way to those independent holdings with greater than 500 birds (holdings with fewer birds are exempt from the legislation).

6.2 A significant proprortion of broiler production is under the complete control of the processing companies, with production farms owned by the company and managed and run by company employees. Most of the remaining 30-40% of producers are individual growers supplying these same producers under contract (UFAW Farm Handbook 4th Edition). These individual growers will either own outright or rent their buildings. Any investments in building structure or equipment would normally be paid for by the individual grower. Whilst the processing companies will generally have more than 250 full time equivalent employees, virtually all of the contracted producers will fall within the small firm's definition.

6.3 Given that margins are already very tight in the UK broiler sector with average net margin per bird in 2005 estimated at less than two pence, any increase in the cost of production would impose financial difficulties on some producers This could have a disproportionate effect on smaller producers who would not be able to take advantage of the benefits of scale that larger producers could use to drive input costs to a lower level to survive. A major concern expressed by non-company respondents (i.e. small firms) in the 2002 Exeter study was "profit margins insufficient to invest with confidence in the future."

6.4 ADAS held a series of workshops in early 2004 with small and large broiler producers in order to gain their thoughts on the implications of the possible content of an EU Broiler Welfare Directive. Concern was expressed by smaller producers/contract growers that there simply was insufficient profit being made from broiler production in the UK to fund projects involving significant amounts of capital.

6.5 The 2005 ADAS/Exeter survey found that approximately 12% of holdings, mostly comprising small non company producers, could leave the industry if the proposed Directive goes ahead (although they would account for a much smaller proportion of overall production). However, the survey also found that 12.4% had gone out of broiler production between 2002 and 2005. Although some of these were due to death or retirement, many of those that left the industry had concluded that their operation was too small to be economically viable. Most of the producers from the 2002 sample that had gone out of production were producers with smaller houses, and fewer birds, than average. This suggests that they were small and non company owned producers. Many companies were either closing or resting their less efficient sites.

6.6 Given this, it is felt that those producers that would leave the industry in the event of the proposed Directive would be those most likely to leave the industry anyway as a result of low profitability, ageing facilities and diseconomies of small scale. The percentage that is expected to leave as a result of the Directive is in line with the percentage that has left over the last three years for other reasons.

7. Conclusion - Summary of Costs and Benefits

Table 15: Summary of costs and benefits

	Option 1	Option 2
Costs		
Annex 1		
One-Off	£1,706,474	£1,706,474
Ongoing	£464,219	£464,219
Annex 2		
One-Off	£8,630,472	£8,630,472
Ongoing	£135,348	£135,348
Stocking Density		
One-Off	£3,008,246	£4,375,630
Ongoing	£2,643,002	£3,844,367
Training		
One-Off	£2,198,602	£2,198,602
Ongoing	£480,844	£480,844
Inspection and Enforcement		
One-off	£221,307	£191,157
Ongoing	£301,203	£301,203
Admin Burden		
One-off	£16,819	£10,713
Ongoing	£15,202	£15,202
PVC Ongoing (8 years)	£28,741,453	£37,288,615
Total PVC	£44,523,374	£54,401,663
Benefits		
Ongoing	£103,000,000	£103,000,000
Total PVB	£732,798,030	£732,798,030
NPV	£688,274,656	£678,396,367

7.1 Both of the options provide a significant overall benefit to society indicating the government intervention as regards broiler welfare is justified. The largest one-off costs facing the industry refer the Annex II requirements, whereas the largest on-going costs are based on the impact of stocking density requirements.

7.2 Of the two options, option 1 which allows the use of the Annex V derogation has the lowest costs and given that benefits are the same for the options this means that it has the highest overall NPV to society. Option 2 has a PVC £9.9m higher, which is a significant proportion of the overall costs.

However, in terms of the overall NPV the change in cost is only small.

8. Additional information sought

8.1 Please see accompanying consultation document for specific questions on this Impact Assessment.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	***Results in Evidence Base?***	***Results annexed?***
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	No	Yes
Sustainable Development	No	Yes
Carbon Assessment	No	Yes
Other Environment	No	Yes
Health Impact Assessment	No	Yes
Race Equality	No	Yes
Disability Equality	No	Yes
Gender Equality	No	Yes
Human Rights	No	Yes
Rural Proofing	No	Yes

Annexes

Annex A: Outcome of Impact Tests not referred to in the Evidence Base

Legal Aid

The draft Regulations do not create any new criminal sanctions or civil penalties.

Sustainable Development

The new Directive is in accordance with the shared UK principles of sustainable development.

Carbon Impact Assessment

The proposed amendments to the Regulations will have no significant effect on carbon emissions, as in the main the nature and scale of conventional chicken production and marketing is likely to remain the same. There may be some change to the carbon footprint of individual businesses, but the overall impact for the industry as a whole is unlikely to alter substantially.

Other Environmental Issues

As the nature of conventional chicken production and marketing is likely to remain the same, the proposed amendments to the Regulations have no implications in relation to climate change, waste management, landscapes, water and floods, habitat and wildlife or noise pollution.

Health Impact Assessment

The Directive will not directly impact on health or well being and will not result in health inequalities.

Race /Disability/Gender

A screening of the options against a checklist of questions as part of the Equality Impact Assessment has revealed that there is no unlawful discrimination and that they promote equality of opportunity and good relationships between people from different backgrounds.

Human Rights

The Directive is consistent with the Human Rights Act 1998.

Rural Proofing

The majority of producers and many suppliers are based in rural areas and the Directive will not have a negative effect on the rural community.

Annex B: Updating Costs as Estimated by ADAS/UofE to Take Account of Changes in the Final Directive

Annex 1 and Annex II Costs

This IA extrapolates from the ADAS/UofE survey responses to estimate total costs to broiler producers in England at industry level. A number of the Annex 1 and Annex II requirements have changed in the final Directive compared with the original Directive proposal on which the ADAS/UofE study was based. Therefore assumptions have been made in order to estimate what effect this would have on the original ADAS costs. These have been conservative estimates which if anything should overstate costs of the Annex I and II requirements.

Stocking density cut-off - The Directive now places Annex II additional requirements on producers stocking above 33kg/m^2, rather than those stocking above 30kg/m^2 as originally stated. The costs of these requirements would be expected to fall therefore, but to avoid under-estimating the costs we will assume they have not changed.

Lighting – The Directive now only requires 6 hours darkness compared to 8. Lighting now has to follow a 24 hour rhythm after 7 days of placing and 3 days before slaughter compared with 3 days after placing and 3 days before slaughter. The cost of this requirement has fallen but to avoid under-estimating the costs we will assume they have not changed. Additionally this requirement is now applicable to all producers under Annex I rather than just those producing above 33kg/m^2: the costs have been adjusted to reflect this change.

Recording – This requirement has been dropped. There is no longer specific requirement for recording temperature, humidity and water consumption. This is recommended good practice but will not be a compulsory element of the Directive and will therefore the cost will not fall under this IA.

Documentation – There is no longer a requirement to supply documentation on production targets or management information. We have assumed these elements represented 30% of the original ADAS estimated documentation costs.

All other Annex I and II requirements remain the same as in the original Directive proposal.

Stocking Density Requirement: Costs

The original directive proposal had a maximum stocking density of 38kg when complying with annex II requirements. Much of the costs estimated in the ADAS report resulted from holdings who stocked at 38kg having to reduce their stocking density to provide a safety margin in order to avoid accidentally exceeding the maximum stocking density. As the final directive has a maximum stocking density of 39kg we have assumed that producers will use this extra 1kg as a safety margin and will therefore not have to reduce stocking densities below 38kg.

Therefore we no longer have to include the cost of providing the safety margin which was originally estimated in the ADAS/UofE study. Instead we include the cost to producers who stock above 38kg coming down to this level. The number of holdings which do this and hence the cost will depend on which option is implemented.

Annex C: Glossary

Acronymn	Term	Definition
AH	Animal Health	AH is an Executive Agency of Defra. It is primarily responsible for ensuring that farmed animals in Great Britain are healthy, disease-free and well looked after.
(none)	Broiler	Meat chicken
LA	Local Authority	
MHS	Meat Hygiene Service	MHS is an Executive Agency of the Food Standards Agency. It is responsible for the protection of public health and animal health and welfare in Great Britain, through proportionate enforcement of legislation in approved fresh meat premises.