



Founders
Pledge

Cause Area Report: Corporate Campaigns for Animal Welfare

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Executive Summary

Each year, billions of animals are raised in industrial factory farming, where they live in extremely poor conditions, and are ultimately killed in painful ways. This report provides an overview of the problem and discusses what philanthropists can do to tackle it.

1. Animal farming

At any point in time, there are roughly 30 billion farmed vertebrate land animals in the world, including 23 billion chickens. The majority of those live in factory farms: for instance, a recent estimate suggests roughly 90% of global egg production uses cage systems.

Factory farming is very bad for animal welfare. In the US, standard industry practice is to provide egg-laying hens living in battery cages with 430 to 560 cm² of space. For context, A4 paper and US letter paper are roughly 600 cm². Broiler chickens (chickens used for meat consumption) have been genetically selected for fast growth and efficient production, which is associated with major animal welfare issues, such as skeletal problems, footpad dermatitis, and chronic hunger. Between 2.5 and 7 billion male chicks of egg-laying strains are culled each year, usually within a day of hatching, because they are not economically profitable.

Despite the scale of the problem, and the severity of its effects on animals, relatively little funding is directed towards helping farmed animals. In the US, only 0.03% of total philanthropic funding goes towards farmed animals.

2. Pritoritising interventions

In this report we focus on what we had some prior reason to believe was a highly promising animal welfare intervention, and test the extent to which these initial judgments stand up to scrutiny. Unlike our usual methodology, we did not conduct a comprehensive assessment of all available programs and organisations working in the space. This is because our aim is to provide timely advice for donors, because farmed animal welfare is a very promising field that many donors have expressed a desire for recommendations in. Conducting a more complete investigation remains a likely priority for the future.



Corporate campaigns

The intervention we focus on is corporate campaigns. Corporate campaigns seek to shift corporate practices towards systems that improve animal welfare, employing a variety of strategies, including supporting aligned stakeholders or offering technical assistance, and launching social media campaigns against companies that refuse to engage.

Case study evaluated

To assess the effectiveness of this intervention, we focus on corporate campaigns targeting battery cages in the US as a case study. As of early 2016, over 200 companies had committed to implement cage-free systems within a ten-year timeline. Collectively, these commitments are estimated to spare 225 million hens from battery cage confinement each year. An assessment of timelines and interviews of stakeholders suggests that corporate campaigns were instrumental to obtaining commitments to discontinue battery cage systems in the US.

Benefits for animals

We then assess whether the policies targeted by corporate campaigns are likely to bring about improvements in animal welfare. We focus on three policies. The first policy consists of shifting the housing of egg-laying hens from battery cages to aviaries. In battery cages, animals live in tiered cages and are tightly stacked together. In aviaries, birds live on platforms that are stacked at different heights and provide on average 90% more space per bird than battery cages. We think it is likely that aviaries are better for animal welfare than battery cage systems.

The second policy is ending chick culling. The most promising way of doing so involves avoiding the birth of male chicks by employing technologies that determine the sex of fertilised eggs before the chick develops. We are confident that, if successful, this would end the suffering associated with chick culling.

The third shift consists of adopting policies that aim to improve the welfare of broiler chickens. Corporate campaigns focusing on the welfare of broilers have promoted four types of changes: increased amount of space, improved quality of environment (including access to perches and natural



light), selecting breeds that would avoid common welfare problems, and adopting less harmful slaughtering practices. After reviewing the literature on those changes, we believe that most of these interventions would likely bring about improvements in the welfare of broiler chickens.

It's important to note that accurately understanding how the wellbeing of chickens is affected by these policies is very complex. This can lead to differing conclusions about whether a policy change is positive and has in this instance lead to some animal advocacy groups advocating against the policies in question. This is because there is a low yet non-negligible chance that shifting to aviaries and employing new broilers breeds actually has negative effects on animal welfare. Our subjective estimate is that the probability of THL-supported policies causing harm is between 5 and 10%. We report THL's response to these concerns in [Appendix 3](#) below. Our best guess remains that these reforms will bring about significant benefits for animals. Nonetheless, donors should be aware of the potential risk. Donors averse to this risk may decide to wait to donate until we complete a wider investigation of animal welfare interventions.

Likelihood of success

Large uncertainties remain in the likelihood that campaigns will successfully bring about the desired changes. This is because commitments are not legally binding, and, in the case of broiler chickens and chick culling, success relies on the adoption of technologies that are yet to be developed or made commercially available. Even taking these uncertainties into account, however, the expected benefits from the campaigns are still extremely large, mainly because of the large number of animals that would benefit from the improvements.

3. Charity recommendation: The Humane League

We considered two charities working on corporate campaigns: The Humane League (THL) and Animal Equality. We selected these organisations on the basis of work published by the Open Philanthropy Project, a foundation that focuses on doing as much good as possible, and Animal Charity Evaluators, a charity-evaluator that seeks to find the most cost-effective opportunities in the space. We were unable to complete the investigation for Animal Equality, because the organisation could not share the needed materials within the timeline we had set for this report. We concluded the investigation of THL



and believe they are a good option for donors interested in improving animal welfare, notwithstanding the risks mentioned above.

What do they do?

THL conduct campaigns to persuade companies to adopt policies that improve the welfare of animals and engage in wider outreach and education programs.

Track record and cost-effectiveness

To evaluate their track record, we assessed six case studies of THL’s corporate campaigns to date, and concluded they played an important role in achieving significant improvements in corporate policies affecting animal welfare. In particular, they were willing to take a confrontational stand against companies, which complemented the more collaborative role played by other advocacy organisations. We use a longer list of 37 case studies to estimate the total number of birds affected by their campaigns to date.

To estimate costs, we consider THL’s budget from 2015 to date. We estimate that their work brought about benefits roughly equivalent to roughly 10 hen-years shift from battery cages to aviaries, by which we mean ‘an outcome as good as shifting ten hens from a battery cage to an aviary system for one year’. THL has a strong focus on evidence and effectiveness and have been highly transparent in our communication.

Room for more funding and future plans

We estimate THL could productively absorb an additional \$4.5million up to the end of 2019. They would use these funds to hire additional staff to extend their work internationally, supporting their offices in the UK and Mexico, and The Open Wing Alliance, the international cage-free coalition they founded. Additionally, funds would be employed to consolidate their work in the US, by improving their capacity to run larger campaigns and their ability to retain talented staff: specifically, funds would be employed to hire additional program/campaign staff, strengthen infrastructure by expanding their support staff, and raise salaries and benefits for all staff to be in line with industry standards.



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1. Overview of Farmed Animal Welfare

1.1. Why focus on farmed animals?

At any point in time, there are roughly 30 billion farmed vertebrate land animals in the world, including 23 billion chickens and 7 billion other land animals.¹ The number of farmed fish is estimated to be between 33 and 167 billion.²

The majority of these live in factory farms. For instance, a recent estimate suggests roughly 90% of global egg production occurs through cage systems.³

By and large, animals living in industrial farms live in extremely poor conditions, in constrained spaces, and are ultimately killed in painful ways. Here are some examples:

- In the US, pregnant sows are kept in ‘gestation crates’ – stalls that are so small that the sows are unable to turn around.⁴
- Male piglets are castrated to prevent so-called ‘boar-taint’ – the odour and flavour that male pig meat would otherwise have. Castration is generally carried out without anaesthetic and is a highly painful procedure for the animal.⁵

¹ “Sentience Institute Global Farmed & Factory Farmed Animals Estimates,” Google Docs, accessed November 2, 2018, https://docs.google.com/spreadsheets/d/1Njl_GS7jDOELjOtywvk3thIFpW_v10uZ5APJl1KgaYO/edit?usp=embed_facebook. The site reports that “These numbers are for vertebrates only. Numbers exclude asses, mules, horses, camels, and camelids, as the percentage who are used for food after being used for labor is unknown to us. Numbers do include “pigeons, other birds,” and while we [sic] similarly though somewhat more certain about their use as food, their total of 28.5 million in 2016 has no noticeable effect on our rounded totals or percentages”.

² “Sentience Institute Global Farmed & Factory Farmed Animals Estimates,” Google Docs, accessed November 2, 2018, https://docs.google.com/spreadsheets/d/1Njl_GS7jDOELjOtywvk3thIFpW_v10uZ5APJl1KgaYO/edit?usp=embed_facebook.

³ Sentience Institute Global Farmed & Factory Farmed Animals Estimates,” Google Docs, accessed November 2, 2018.

⁴ Emma M. Baxter, Inger Lise Andersen, and Sandra A. Edwards, “Sow Welfare in the Farrowing Crate and Alternatives,” in *Advances in Pig Welfare* (Elsevier, 2018), 27–72, <https://doi.org/10.1016/B978-0-08-101012-9.00002-2>. “As the sow’s position is fixed in the crate, the footprint is minimal (typically 1.23 m2 crate within 3.6 m2 pen”, p.28.

“After a Decade of Promises, Has the Food Industry Made Progress on Gestation Crates?,” Civil Eats, March 21, 2018, <https://civileats.com/2018/03/21/after-a-decade-of-promises-has-the-food-industry-made-progress-on-gestation-crates/>.

⁵ A Prunier et al., “A Review of the Welfare Consequences of Surgical Castration in Piglets and the Evaluation of Non-Surgical Methods,” 2006, 14.



- Between 2.5 and 7 billion male chicks of egg-laying strains are culled each year, usually within a day of hatching, because it is not economically profitable to raise them: they cannot produce eggs, and they grow more slowly than strains selected for meat production.
- As of October 2018, battery cage systems were used to produce roughly 82% of all eggs sold in the US.⁶ Standard industry practice is to provide egg-laying hens living in battery cages 430 to 560 cm² of space. As a reference, A4 paper and US letter paper are roughly 600 cm².⁷
- Broiler chickens (chickens used for meat consumption) have been genetically selected for fast growth and efficient production. This is associated with major animal welfare issues, such as skeletal problems, footpad dermatitis, and chronic hunger of broiler breeders.⁸

We discuss concerns with chicken welfare in more detail below when considering promising interventions in the space of animal welfare.

1.2. Neglectedness

In general, the more neglected a space, the more we can expect to find promising donation opportunities in need of funding. Despite the scale of the problem, and the severity of its effects on animals, relatively little funding is directed towards farmed animals. For example, in the US, around \$390 billion was spent on philanthropic giving in 2017.⁹ In total, roughly 97% of philanthropic funding is directed towards humans; the remaining 3% goes towards animals and the environment.¹⁰

⁶ USDA, "Monthly USDA Cage-Free Shell Egg Report" <https://www.ams.usda.gov/mnreports/pymcagefree.pdf>
USDA, "USDA AMS Weekly Shell Egg Demand Indicator" <https://www.ams.usda.gov/mnreports/pywsedi.pdf>
The first document reports 57,112,000 hens in cage-free systems, while the second reports a total of 320,079,726 laying hens.

⁷ "Farmed Bird Welfare Science Review | Animal Welfare | Animal Health and Welfare | Agriculture | Agriculture Victoria," accessed September 30, 2018, <http://agriculture.vic.gov.au/agriculture/animal-health-and-welfare/animal-welfare/farmed-bird-welfare-science-review>.

⁸ EFSA Panel on Animal Health and Welfare. "Scientific Opinion on the influence of genetic parameters on the welfare and the resistance to stress of commercial broilers." *EFSA Journal* 8, no. 7 (2010): 1666.

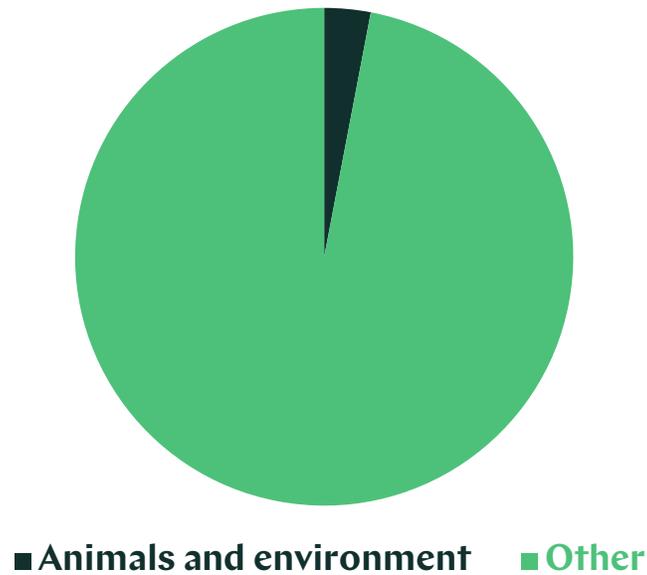
⁹ Giving USA, "See the Numbers – Giving USA 2017 Infographic | Giving USA," accessed November 2, 2018, <https://givingusa.org/see-the-numbers-giving-usa-2017-infographic/>.

¹⁰ Giving USA, "See the Numbers – Giving USA 2017 Infographic | Giving USA," accessed November 2, 2018, <https://givingusa.org/see-the-numbers-giving-usa-2017-infographic/>.



Figure. 1.

Donations going to animals and environment in the US in 2017 as a percentage of the total



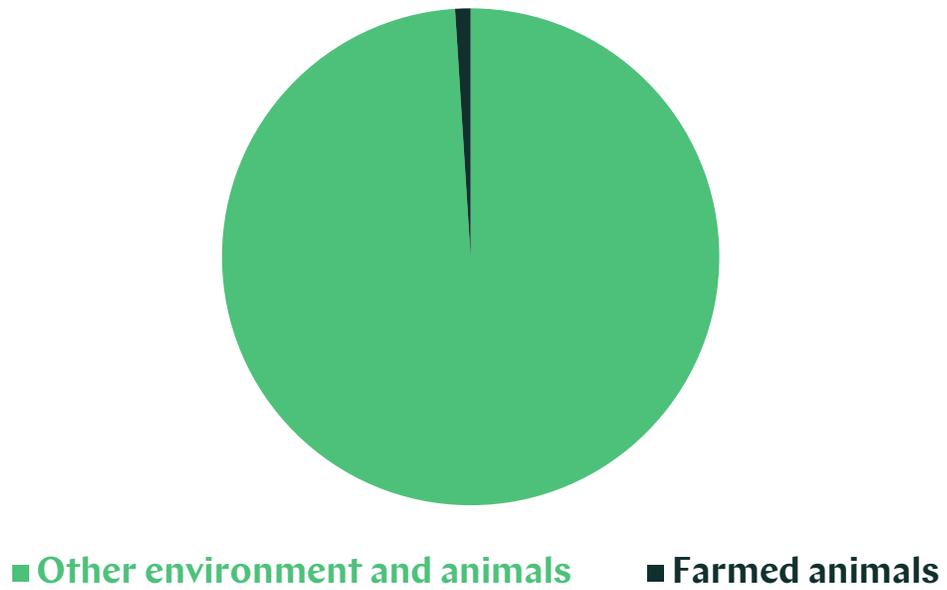
Of this 3%, only 1% goes towards farmed animals.¹¹ This means 0.03% of total philanthropic funding in the US goes towards farmed animals. This suggests donors are likely to find promising under-funded opportunities in the area.

¹¹ Natalie Cargill, "Effective Animal Advocacy", Conference on Animal Rights in Europe (CARE), October 13, 2018.



Figure. 2.

Donations going to farmed animals in the US in 2017 as a percentage of donations to the environment and animals





2. Interventions: What Works?

2.1. Possible interventions and the state of the evidence

Interventions that can be employed to improve animal welfare include:¹²

- Leafleting promoting vegetarian and vegan diets among individual consumers.
- Advocacy to encourage institutions (such as schools and hospitals) to reduce meat supply.
- Supporting the research and distribution of cultured meat and meat substitutes.
- Campaigning to encourage companies to adopt policies that improve the welfare of farmed animals.
- Campaigning for laws that improve the welfare of farmed animals.
- Litigating against corporations or government agencies to compel them to respect and enforce laws.
- Advocating for the use of welfare food labels to increase companies' incentives to comply with best practices.
- Conducting and sharing investigative reports to increase awareness of the conditions of farmed animals.
- Maintaining farm animal sanctuaries to increase empathy towards them.

For the purpose of this particular report, we aimed to meet the demand for evidence-based recommendations on animal welfare coming from donors hoping to give immediately. We therefore decided to restrict our research to changes of internal corporate policies (corporate campaigns). This is because corporate campaigns were the only intervention for which we were able to find a pre-existing evaluation that suggested the program would be effective.¹³ Note that our reason for

¹² The list below is based on "Treatment of Animals in Industrial Agriculture," Open Philanthropy Project, September 24, 2013, <https://www.openphilanthropy.org/research/cause-reports/treatment-animals-industrial-agriculture>. and "Interventions," *Animal Charity Evaluators* (blog), accessed September 30, 2018, <https://animalcharityevaluators.org/advocacy-interventions/interventions/>.

¹³ Animal Charity Evaluators recently reviewed the evidence in favour of leafleting and concluded that "leafleting is about as likely—or perhaps even more likely—to actually cause increases in animal product consumption during [the studied] time period". "Leafleting," *Animal Charity Evaluators* (blog), accessed September 30, 2018, <https://animalcharityevaluators.org/advocacy-interventions/interventions/leafleting/>. In our view, it is not plausible that



restricting the focus to corporate campaigns is not that we believe it is not possible to assess other, more speculative, interventions. Assessing those interventions remains a likely priority for our future research. We discuss our process in more details in [Appendix 1](#) below.

2.2. Corporate campaigns

Corporate campaigns consist of efforts aimed at shifting corporate practices towards systems that improve animal welfare.

Corporate campaigns can use a variety of strategies. In some cases, organisations promote change from within the company by supporting aligned stakeholders or offering technical assistance. Alternatively, advocates can launch social media campaigns against companies that refuse to engage.¹⁴ These campaigns can give consumers – who are often unaware of the problem – information about animal treatment in the production chain, creating negative publicity for companies. This creates a PR incentive for companies to address the issue.¹⁵

To evaluate the effectiveness of this type of intervention, we proceed in two steps. First, we assess the extent to which corporate campaigns are likely to bring about companies’ commitments, by focusing on a case study on cage-free commitments in the US. Secondly, we evaluate the extent to which commitments are likely to improve the conditions of farmed animals, by considering how beneficial new policies would be to animals and the likelihood companies will follow through with their commitments.

Have corporate campaigns led to companies’ commitments?

Our assessment of whether corporate campaigns were responsible for cage-free commitments in the US is based in large part on two reports by Lewis Bollard of the Open Philanthropy Project: “Why Are the US Corporate Cage-Free Campaigns Succeeding” and “Initial Grants to Support Corporate Cage-

leafleting causes harm. The evidence on this intervention is very weak, so our judgement is largely dictated by our Bayesian prior, which is that leafleting has zero to little effect.

¹⁴ “Why Are the US Corporate Cage-Free Campaigns Succeeding?,” Open Philanthropy Project, April 11, 2017, <https://www.openphilanthropy.org/blog/why-are-us-corporate-cage-free-campaigns-succeeding>.

¹⁵ “Ending Factory Farming as Soon as Possible - 80,000 Hours,” accessed September 28, 2018, <https://80000hours.org/podcast/episodes/lewis-bollard-end-factory-farming/>.



free Reforms”.¹⁶ The Open Philanthropy Project (OpenPhil) is a foundation that aims to give as effectively as possible and shares its findings openly so that anyone can build on its work.¹⁷ For transparency, note that OpenPhil is one of Founders Pledge’s donors.

The OpenPhil account is the only publicly available resource we have found on the topic of corporate campaign effectiveness in this area. We believe their account to be reliable because: (a) OpenPhil is by far the biggest funder of corporate campaign efforts and has therefore gained significant experience in this area; (b) their grant-making strategy focuses heavily on evidence and cost-effectiveness and is therefore highly aligned with Founders Pledge’s overall methodology. Our confidence in OpenPhil’s conclusions is also increased by their demonstrable willingness to engage with conflicting opinions and back up their assumptions with evidence. For instance, in 2016 OpenPhil’s positive opinion on shifting from battery cages to aviary housing for chickens was challenged by animal advocacy organisation Direct Action Everywhere (DAE).¹⁸ DAE argued that aviaries have much higher mortality rates than battery cages.¹⁹ Following this, OpenPhil conducted a broader review on the welfare benefits deriving from the shift from battery cages to aviaries, which they published in 2017.²⁰ Although they concluded that the shift is still likely to bring about improvements in welfare, they revised their confidence in the conclusion and the weight given to specific evidence. Below, we provide a summary and interpretation of OpenPhil’s account of the effect of corporate campaigns on cage-free commitments in the US.

In 2008, a ballot in California approved Proposition 2, a measure creating a new state statute that prohibited the confinement of farm animals in a manner that would not allow them to turn around

¹⁶ “Why Are the US Corporate Cage-Free Campaigns Succeeding?”

“Initial Grants to Support Corporate Cage-Free Reforms,” Open Philanthropy Project, March 31, 2016, <https://www.openphilanthropy.org/blog/initial-grants-support-corporate-cage-free-reforms>.

¹⁷ “About Us,” Open Philanthropy Project, March 26, 2015, <https://www.openphilanthropy.org/about>.

¹⁸ For more information about those systems, see “Shift from battery cages to aviaries” section below.

¹⁹ “2016.03.14 Memo and Review of Literature - Aviary Systems and Corporate Campaigns”, Direct Action Everywhere, https://docs.google.com/document/d/1mEoaEm9xRuVvkX3nWggRPz700RU7_Z_QgRuEtQMWiMbM/edit.

²⁰ “How Will Hen Welfare Be Impacted by the Transition to Cage-Free Housing?,” Open Philanthropy Project, September 15, 2017, <https://www.openphilanthropy.org/focus/us-policy/farm-animal-welfare/how-will-hen-welfare-be-impacted-transition-cage-free-housing>.



freely, lie down, stand up, and fully extend their limbs.²¹ Campaigners worked on ballot measures aimed at improving the conditions of egg-laying hens in both Washington and Oregon. The ballots were stopped when United Egg Producers and The Humane Society of the United States agreed to put forward a federal legislation requiring a shift to enriched cages (giving birds more space) and the introduction of food labelling.²² However, the bill was not passed by Congress, and United Egg Producers ended their efforts to support the legislation in 2014.²³

In late 2014–early 2015, after the bill was set aside, advocates turned once more their attention to corporate campaigns for cage-free systems in the US. These campaigns have been led by organisations including The Humane League, Mercy for Animals, The Humane Society of the United States, and Compassion in World Farming USA.²⁴

Campaigns were followed by commitments by major food services companies in the country:

- Sodexo USA, February 2015²⁵
- Aramark, April 2015²⁶
- Compass Group, September 2016²⁷

²¹ “California Proposition 2, Standards for Confining Farm Animals (2008) - Ballotpedia,” accessed October 5, 2018, [https://ballotpedia.org/California_Proposition_2,_Standards_for_Confining_Farm_Animals_\(2008\)](https://ballotpedia.org/California_Proposition_2,_Standards_for_Confining_Farm_Animals_(2008)).

²² “HSUS, Egg Industry Agree to Promote Federal Standards for Hens : The Humane Society of the United States,” accessed October 5, 2018, http://www.humanesociety.org/news/press_releases/2011/07/egg_agreement.html.

²³ “United Egg Producers Officially Ends Efforts to Pass Egg Bill,” accessed October 5, 2018, <https://www.wattagnet.com/articles/18297-united-egg-producers-officially-ends-efforts-to-pass-egg-bill>.

²⁴ See, for example “Victory for Hens: Massive Foodservice Company Goes Totally Cage-Free,” Mercy For Animals, March 12, 2015, <https://mercyforanimals.org/victory-for-hens-massive-foodservice-company>.

“How the Humane Society Convinced Nearly 100 Food Companies to Take Their Animals out of Cages,” Fortune, accessed October 5, 2018, <http://fortune.com/2015/04/09/humane-society-food-companies-negotiation/>.

“Sodexo Faces National Attention over Animal Cruelty,” *The Commuter* (blog), February 27, 2015, <http://ncccommuter.org/sodexo-faces-international-attention-over-animal-cruelty/>.

²⁵ “Cage-Free Liquid Eggs Archives,” Sodexo Insights, accessed October 5, 2018, <http://sodexoinsights.com/tag/cage-free-liquid-eggs/>.

²⁶ “Aramark Establishes Animal Welfare Policy,” accessed October 5, 2018, <https://www.aramark.com/about-us/news/aramark-general/aramark-establishes-animal-welfare-policy>.

²⁷ “Food Service Giant Compass Group Joins Growing List of Retailers Ending Caged Eggs - Farming UK News,” accessed October 5, 2018, https://www.farminguk.com/News/Food-service-giant-Compass-Group-joins-growing-list-of-retailers-ending-caged-eggs_43174.html.



Similar commitments were made in the fast food industry:

- McDonald's, September 2015²⁸
- Starbucks, October 2015²⁹
- Taco Bell, November 2015³⁰
- Dunkin' Donuts, December 2015³¹
- Wendy's, January 2016³²
- Burger King, February 2016³³

Between the end of 2015 and 2016, commitments were made from the top 25 major grocers in the country, including:

- Costco, December 2015³⁴
- Trader Joe's, February 2016³⁵
- Albertsons, March 2016³⁶
- SuperValu, March 2016³⁷

²⁸ Associated Press, "McDonald's Says It Will Switch to Cage-Free Eggs in the US and Canada," *The Guardian*, September 9, 2015, sec. Business, <https://www.theguardian.com/business/2015/sep/09/mcdonalds-scage-free-eggs-us-canada>.

²⁹ "Starbucks Aims To Use Only Cage-Free Eggs By 2020," accessed October 5, 2018, https://www.huffingtonpost.co.uk/entry/starbucks-cage-free-eggs_us_56127477e4b0768127027e4f.

³⁰ "Taco Bell to Switch to Cage-Free Eggs - WSJ," accessed October 5, 2018, <https://www.wsj.com/articles/taco-bell-to-switch-to-cage-free-eggs-1447685367>.

³¹ "Dunkin' Donuts Wants To Help America Run On Cage-Free Eggs," accessed October 5, 2018, https://www.huffingtonpost.co.uk/entry/dunkin-donuts-cage-free-eggs_us_5665d8a8e4b072e9d1c6ed48.

³² "It's Getting Even Harder To Ignore The Cage-Free Egg Movement," accessed October 5, 2018, https://www.huffingtonpost.co.uk/entry/wendys-cage-free_us_568a854ce4b0b958f65c1ca1.

³³ "Burger King Commits to 100% cage free eggs" accessed October 5, 2018, http://www.hsi.org/news/press_releases/2016/02/burger-king-global-cage-free-egg-commitment-020116.html

³⁴ Deena Shanker, "After Months of Pressure, Costco Commits to a Cage-Free Egg Supply," Quartz, accessed October 5, 2018, <https://qz.com/582427/after-months-of-pressure-costco-commits-to-a-cage-free-egg-supply/>.

³⁵ "Why Trader Joe's Big Move On Eggs Is So Important," accessed October 5, 2018, https://www.huffingtonpost.co.uk/entry/trader-joes-cage-free-eggs_us_56c1f84ae4b0b40245c73cd2.

³⁶ "Albertsons » Albertsons Companies Sets Goal for Cage-Free Eggs by 2025," accessed October 5, 2018, <https://www.albertsons.com/albertsons-companies-sets-goal-for-cage-free-eggs-by-2025/>.

³⁷ "Supervalu Latest to Flock to Cage-Free Egg Movement | Fortune," accessed October 5, 2018, <http://fortune.com/2016/03/29/supervalu-cage-free-egg-movement/>.



- Walmart, April 2016³⁸
- Kroger, March 2016³⁹

Finally, several of the US's top food manufacturers also committed to sourcing cage-free eggs. Among others, these included:

- Nestlé, December 2015⁴⁰
- ConAgra, January 2016⁴¹
- Pepsi, March 2016⁴²
- Kraft Heinz, March 2016⁴³

As of early 2016, over 200 companies had committed to implement cage-free systems. Most of the companies committed to do so by, or before, 2025. Collectively, these commitments are estimated to spare 225 million hens a year from battery cage confinement.⁴⁴

The evidence in favour of corporate campaigns playing a role in the adoption of cage-free policies includes:

- The alignment between accounts provided by advocates, news reports and senior executives at two major companies that pledged to go cage-free, who were interviewed for OpenPhil's report.⁴⁵

³⁸ "Walmart Latest Retailer To Make Cage-Free Egg Vow | Fortune," accessed October 5, 2018, <http://fortune.com/2016/04/05/walmart-vow-cage-free-eggs/>.

³⁹ Christopher Durham, "Kroger Commits to Cage-Free Eggs by 2025," *My Private Brand* (blog), March 6, 2016, <http://mypbrand.com/2016/03/06/kroger-commits-to-cage-free-eggs-by-2025/>.

⁴⁰ "Nestle to Switch to Cage-Free Eggs in U.S. by 2020," Reuters, December 22, 2015, <https://www.reuters.com/article/us-nestle-eggs-idUSKBN0U51E620151222>.

⁴¹ "ConAgra Targets 100 Percent Cage-Free Egg Supply By 2025 | Business Wire," accessed October 5, 2018, <https://www.businesswire.com/news/home/20160118005799/en/ConAgra-Targets-100-Percent-Cage-Free-Egg-Supply>.

⁴² "PepsiCo Becomes Latest Food Company to Commit to Cage-Free Eggs | Fortune," accessed October 5, 2018, <http://fortune.com/2016/03/28/this-is-the-latest-giant-company-to-free-its-chickens/>.

⁴³ "Kraft Heinz to Source 100% Cage-Free Eggs in North America by 2025 | The Kraft Heinz Company Press Room," accessed October 5, 2018, <https://news.kraftheinzcompany.com/press-release/corporate/kraft-heinz-source-100-cage-free-eggs-north-america-2025>.

⁴⁴ "Why Are the US Corporate Cage-Free Campaigns Succeeding?"

⁴⁵ "Initial Grants to Support Corporate Cage-Free Reforms."



- Joint press releases from advocacy groups and companies making commitments, e.g. Taco Bell, Sodexo, Dunkin’ Donuts, Marriott, BJ’s Wholesale, Kraft Heinz, and Delhaize. These releases were likely the results of negotiations between the companies and advocacy groups.
- Online press suggesting companies who were unwilling to make public commitments changed their minds after campaigns targeting them. For example, in 2015, animal advocacy groups were asking Costco to commit to a cage-free timeline. However, the company was not ready to make a commitment. In August, Costco’s CEO commented:

“This has been going on for about two to three months. We probably are the largest seller of cage-free eggs in the United States. The society would like us to give them a timeline as to when we will be all cage-free and we are not prepared to do that.”⁴⁶

The campaign carried on. Footage released by The Humane Society of the United States, depicting the conditions in a farm managed by one of Costco’s suppliers led a minority shareholder to request a proxy to be on the ballot of a shareholders’ meeting that would require the company to publish an annual animal welfare report and address the level of risk a similar incident would pose to shareholders.⁴⁷ Campaigners set up ‘CagedForCostco.com’, a website hosting information on the campaign and a button to call Costco about their cage-free commitment.⁴⁸ In the end, in December 2015, Costco made a public commitment to shift to cage-free procurement.⁴⁹

- An example of companies failing to follow the example of industry leaders committing to cage-free systems, in the absence of campaigns. In 2012, Burger King pledged to 100% cage-free

⁴⁶ Jade Scipioni, “Costco CEO Fires Back Amid Caged Egg Billboard,” Text.Article, FOXBusiness, January 5, 2016, <https://www.foxbusiness.com/features/costco-ceo-fires-back-amid-caged-egg-billboard>.

⁴⁷ “In the Animal Welfare Crosshairs,” accessed October 5, 2018, <https://www.meatpoultry.com/articles/11985-in-the-animal-welfare-crosshairs?v=preview>.

⁴⁸ Sara Shields, Paul Shapiro, and Andrew Rowan, “A Decade of Progress toward Ending the Intensive Confinement of Farm Animals in the United States,” *Animals* 7, no. 12 (May 15, 2017): 40, <https://doi.org/10.3390/ani7050040>.

“Bad Egg: Rokkan, Humane Society Call Out Costco For Animal Cruelty Issues,” accessed October 5, 2018, <https://www.mediapost.com/publications/article/262488/bad-egg-rokkan-humane-society-call-out-costco-fo.html>.

⁴⁹ Shanker, “After Months of Pressure, Costco Commits to a Cage-Free Egg Supply.”



eggs by 2017.⁵⁰ However, this was not accompanied by further campaigns, since animal advocacy organisations were focusing on gestation crates for sows at the time.⁵¹ No major player committed to cage-free systems until campaigners went back to focusing on the topic.

- Furthermore, past events suggest that in the absence of campaigning, corporate reforms also halt. In 2012, soon after Burger King had made a cage-free commitment, an extended time period elapsed where no further corporate cage-free commitment were made. This correlated with a period where most animal advocacy organisations were taking time out of cage-free campaigning to focus on gestation crates for sows.

We consider the combined information listed above a reliable indication that cage-free corporate campaigns have been responsible for shifts in US corporate policies.

Are shifts in corporate policies likely to bring about improvements in animal welfare?

The majority of successful corporate campaigns to date, and, as far as we are able to tell, the majority of corporate campaigns planned for the near future, focus on chicken welfare. At any point in time, chickens constitute roughly 77% of farmed animals, and comprise an even higher percentage of animals slaughtered over the course of a year. Figure 3, below, for instance, compares the numbers of animals slaughtered across species in the US. As you can see from the picture, chickens constitute roughly 95% of animals slaughtered each year. This is because chickens are killed at a much faster rate than other animals. Broiler chickens (the chickens used for meat) are ready for slaughter after about 6 weeks. In contrast, pigs are slaughtered at 20 weeks⁵² and calves at 45 weeks.⁵³

⁵⁰ "Burger King to Use All Cage-Free Eggs and Pork by 2017," accessed October 5, 2018, <https://www.forbes.com/sites/mickeymeece/2012/04/25/burger-king-to-use-all-cage-free-eggs-and-pork-by-2017/#7ea034603fe4>.

⁵¹ "You Reap What You Sow: Top Food Companies Ban Cruel Gestation Crates | Justmeans," accessed October 5, 2018, <http://justmeans.com/blogs/you-reap-what-you-sow-top-food-companies-ban-cruel-gestation-crates>.

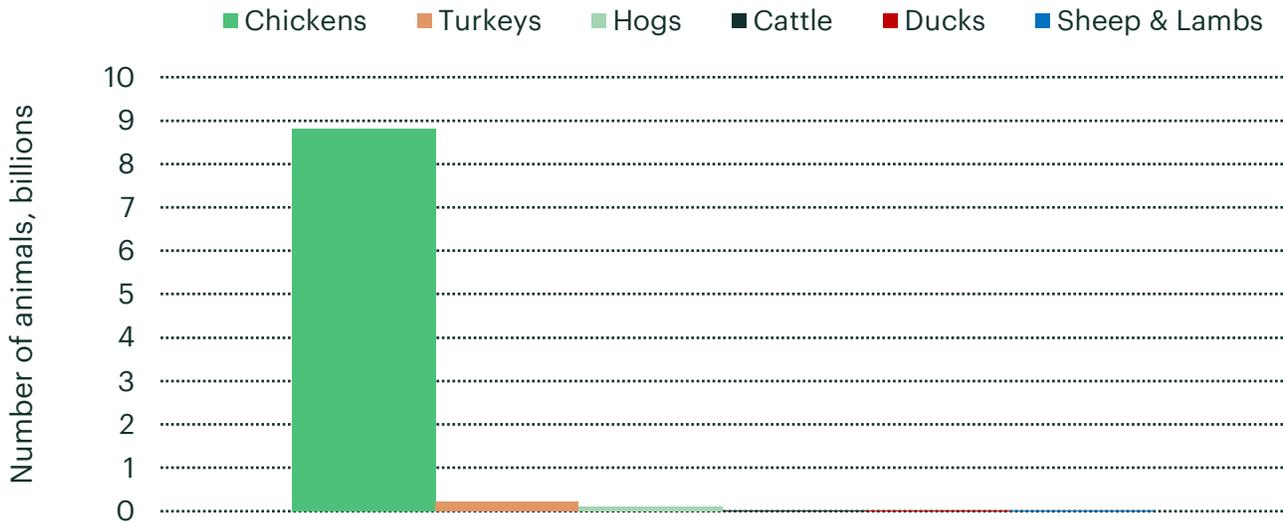
⁵² G. Kusec et al., "Optimal Slaughter Weight of Pigs Assessed by Means of the Asymmetric S-Curve," *Czech Journal of Animal Science* 53, no. No. 3 (March 5, 2008): 98–105, <https://doi.org/10.17221/328-CJAS>.

⁵³ "About Calves Reared for Veal | Compassion in World Farming," accessed September 28, 2018, <https://www.ciwf.org.uk/farm-animals/cows/veal-calves/>.



Figure. 3.

Animals slaughtered in the US in 2015



Source: “Farm Animal Statistics: Slaughter Totals : The Humane Society of the United States,” http://www.humanesociety.org/news/resources/research/stats_slaughter_totals.html.

Corporate campaigns have generally advocated for one of three different commitments: shifting from battery cages to aviaries, ending male chick culling, and adopting improved practices for broiler chicken welfare. We discuss the welfare implications of each of these policies in turn. When assessing these implications, we focus on reducing suffering, and set aside other considerations – such as loss of life. We do so because we consider reducing animal suffering to be the most pressing moral concern in this area.

Shift from battery cages to aviaries

Battery cage systems are systems to house chickens used for eggs production. The animals are kept in a closed building and cages are tiered, usually made of steel wire, and disposed in long rows. Droppings fall through the bottom of the cages and are collected and stored under the animals.⁵⁴

⁵⁴ “Glossary:Laying Hen Housing - Battery Cages - Statistics Explained,” accessed September 30, 2018, https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Laying_hen_housing_-_battery_cages.



Intensive systems are fully automated, and each tier includes: lines of nipple drinkers filled by mains water; a continuous feed trough in front of the cages; belts that collect eggs that roll onto it; and manure removal via belts under the cages. The cages are often not uniformly lit, with birds in lower tiers experiencing very dim conditions, and the birds higher up experiencing exposure to very bright light.⁵⁵

Chickens living in battery cages are tightly stacked together. In the US, standard industry practice was to house birds with just 340 cm² of space per bird until a 2001 recommendation by the United Egg Producers led to an increase of space of 430 to 560 cm² per bird.⁵⁶ As a reference, A4 paper and US letter paper are roughly 600 cm². The lack of space makes it impossible for the birds to perform behaviours like nesting or perching.⁵⁷ As of April 2017, battery cage systems were used to produce 87% of all eggs sold in the US.⁵⁸

Producers moving away from battery cages are likely to substitute them with aviaries. Aviaries are platforms stacked at different heights, mostly covered in litter that birds can forage in, and sometimes include space to nest and perch.⁵⁹ In this system, the minimum space per bird is 929 cm².

Our assessment of the welfare implications of the shift from battery cages to aviaries is based on “How Will Hen Welfare Be Impacted by the Transition to Cage-Free Housing?”, a report published by OpenPhil.⁶⁰ We feel confident relying on this report for the same reasons as those listed earlier: OpenPhil has significant experience in this area, and their research methodology is aligned with ours. What follows is a summary and interpretation of that report.

The main reason as to why aviaries may improve animal welfare is that they provide birds with more opportunities to perform activities such as walking, jumping, stretching, perching, nesting, foraging and dust bathing. Some evidence suggests that chickens value these behaviours. In experimental

⁵⁵ “Farmed Bird Welfare Science Review | Animal Welfare | Animal Health and Welfare | Agriculture | Agriculture Victoria.”

⁵⁶ “Farmed Bird Welfare Science Review | Animal Welfare | Animal Health and Welfare | Agriculture | Agriculture Victoria.”

⁵⁷ “How Will Hen Welfare Be Impacted by the Transition to Cage-Free Housing?”

⁵⁸ “Animal Welfare,” Effective Altruism, accessed September 19, 2018, <https://www.effectivealtruism.org/articles/cause-profile-animal-welfare/>.

⁵⁹ “How Will Hen Welfare Be Impacted by the Transition to Cage-Free Housing?”

⁶⁰ “How Will Hen Welfare Be Impacted by the Transition to Cage-Free Housing?”



studies, this can be inferred by their willingness to ‘pay a price’ to access these opportunities. In some cases, for instance, chickens are willing to forgo the ability to access food after a certain amount of deprivation, in order to perform these activities.⁶¹

The main reason to doubt whether aviaries lead to higher welfare conditions (compared to battery cages) is that some evidence indicates aviaries are correlated with higher mortality rates.⁶² The OpenPhil report considers two academic studies: Karcher et al. 2014,⁶³ which reports the result of a large-scale experiment on a commercial farm in the Midwest, and Weeks et al. 2016,⁶⁴ a meta-analysis aggregating mortality data across 10 farms, mostly in the UK. Karcher et al. 2014 finds mortality is 4.7% in battery cages and 11.5% in aviaries, while Weeks et al. 2016 finds broadly similar mortality rates in the two systems, but greater variance in the data for aviaries. The report also considers a 2013 survey from the US Department of Agriculture (USDA), which provides mortality data from operational commercial US cage and cage-free farms.⁶⁵ The survey finds mortality at 60 weeks to be 5.2% for caged birds and 4.7% for cage-free birds. Furthermore, there is reason to think Weeks et al. 2016 and the USDA survey underestimate the mortality level we should expect from aviaries systems at scale. This is mainly because the large majority of aviaries in these studies were employed in small-scale farms, which are likely to employ methods that improve animal welfare, but would not be representative of systems that could be adopted by the wider industry.

The author of the report suggests the discrepancy between these papers might be partly explained by a ‘transition cost’: that is, mortality in aviaries is higher than in battery cages in the period during which farmers learn management practices for this new system; however, mortality rates in aviaries would decrease in the longer term, once the transition is complete. This hypothesis was broadly

⁶¹ C. J. Nicol, *The Behavioural Biology of Chickens* (CABI, 2015).

⁶² Claire A. Weeks, Sarah L. Lambton, and Adrian G. Williams, “Implications for Welfare, Productivity and Sustainability of the Variation in Reported Levels of Mortality for Laying Hen Flocks Kept in Different Housing Systems: A Meta-Analysis of Ten Studies,” *PLOS ONE* 11, no. 1 (January 6, 2016): e0146394, <https://doi.org/10.1371/journal.pone.0146394>; D. M. Karcher et al., “Impact of Commercial Housing Systems and Nutrient and Energy Intake on Laying Hen Performance and Egg Quality Parameters,” *Poultry Science* 94, no. 3 (March 1, 2015): 485–501, <https://doi.org/10.3382/ps/peu078>.

⁶³ Karcher et al., “Impact of Commercial Housing Systems and Nutrient and Energy Intake on Laying Hen Performance and Egg Quality Parameters.”

⁶⁴ Weeks, Lambton, and Williams, “Implications for Welfare, Productivity and Sustainability of the Variation in Reported Levels of Mortality for Laying Hen Flocks Kept in Different Housing Systems.”

⁶⁵ “Layers 2013 Part I: Reference of Health and Management Practices on Table-Egg Farms in the United States, 2013”. United States Department of agriculture. Accessed 5th October 2018.



confirmed by the experts consulted for OpenPhil’s report, though most of them believed mortality rates are likely to remain somewhat higher in cage-free systems even after the transition. There was no consensus on the reasons why this would be the case, but possible explanations included: increased risk of getting caught in the aviary structure, accidents from flying up to or off of high perches, increased rates of feather pecking, and increased rates of infectious disease.

Experts from the UK and Canada tended to stress that small differences in mortality are unlikely to make up for improvements brought about by increased behavioural opportunities. According to the authors of the report, experts from these countries appeared to be more independent of industry interests, and therefore more reliable.

The report concludes that, overall, the transition to cage-free systems is likely to reduce hen suffering, once an initial transition period finishes. We consider this a compelling interpretation of the evidence. However, we emphasise that there is significant uncertainty about this and we think there is a low but non-negligible risk that shifts to aviary systems are worse for hen welfare. We report THL’s response to these concerns in [Appendix 3](#) below. Donors adverse to this risk may decide to wait to donate until we complete a wider investigation of animal welfare interventions.

Ending chicken culling

Another harmful and widespread practice is male chicken culling. This consists of killing male chickens, usually within a day of hatching, because they cannot produce eggs. Between 2.5 and 7 billion male chicks are culled worldwide each year.⁶⁶

The most common culling methods are carbon dioxide gas or instantaneous mechanical destruction (maceration) through rollers or blades.⁶⁷ In both cases the main risk of harm is that the chicks will be hurt rather than killed immediately and suffer for a prolonged period. When using rollers, this can

⁶⁶ Deutsche Welle (www.dw.com), “Practice of Killing Male Chicks to Continue, German Parliament Decides | DW | 18.03.2016,” DW.COM, accessed September 19, 2018, <https://www.dw.com/en/practice-of-killing-male-chicks-to-continue-german-parliament-decides/a-17030868>.

Global poultry trends 2014: rapid growth in Asia’s egg output. Accessed Jul. 2016. <http://www.thepoultrysite.com/articles/3446/global-poultry-trends-2014-rapid-growthin-asias-egg-output/>.

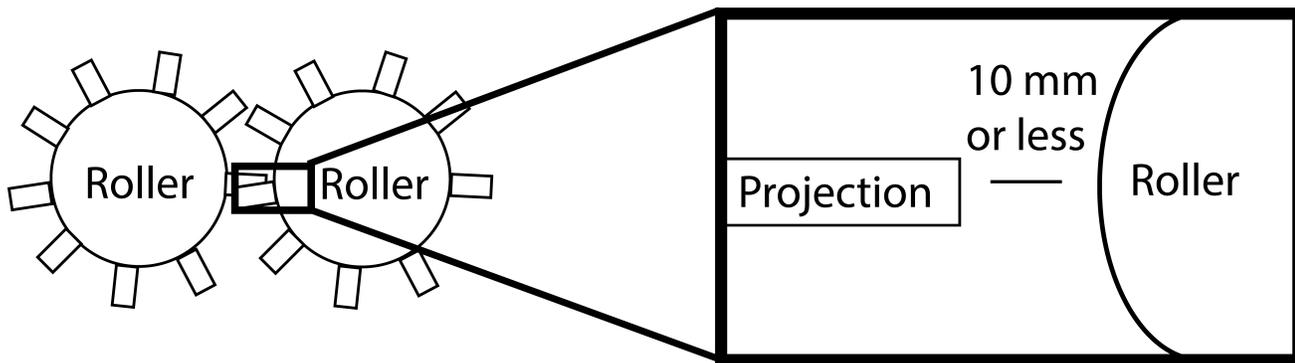
⁶⁷ “Farmed Bird Welfare Science Review | Animal Welfare | Animal Health and Welfare | Agriculture | Agriculture Victoria.”, p 266.



occur if the equipment does not have projections (see Figure 4, below), in which case chicks are flattened, rather than crushed. When using blades, this can occur if chicks are introduced at too high a rate, causing the machines to become blocked. When using carbon dioxide, this can occur if the oxygen levels are higher than prescribed, because chicks are very sensitive to residual oxygen levels.⁶⁸

Figure 4.

Rollers for chicken culling



Source: Instantaneous Mechanical Destruction, The Humane Slaughter Association, <https://www.hsa.org.uk/downloads/technical-notes/tn9-instantaneous-mechanical-destruction.pdf>

Farmers could raise the male chicks as meat chickens, and some organic and free-range producers do so.⁶⁹ However, it seems plausible that the most likely way of avoiding chick culling would consist of avoiding male chicks being born, by employing technologies that determine the sex of a fertilised egg before the chick develops.⁷⁰ Research teams in Germany and the Netherlands are working on this type

⁶⁸ "Farmed Bird Welfare Science Review | Animal Welfare | Animal Health and Welfare | Agriculture | Agriculture Victoria.", p 266.

⁶⁹ "Ending Factory Farming as Soon as Possible - 80,000 Hours," accessed September 28, 2018, <https://80000hours.org/podcast/episodes/lewis-bollard-end-factory-farming/>.

⁷⁰ "United Egg Producers Statement on Eliminating Male Chick Culling," *UEP Certified* (blog), June 10, 2016, <https://uepcertified.com/united-egg-producers-statement-eliminating-male-chick-culling/>.



of technology and have announced that a commercially viable product will be available in the next few years, although we are uncertain about the reliability of these projections.⁷¹

Shift to improved welfare practices for broilers

Broiler chickens are chickens farmed for meat consumption. Corporate campaigns focusing on the welfare of broilers have mainly promoted four types of changes: increased amount of space, improved quality of space, change in breeds, and change in slaughtering practices. These changes correspond to the first level of ethical practices certified by the Global Animal Partnership (GAP). In what follows, we focus on commitments to the improved welfare of broilers in the US, however we would expect changes in other countries to follow roughly similar patterns.

Increased amount and quality of space

Campaigns focussing on this usually refer to a maximum stocking density of 6 lb/ft². A recent paper reports that average broiler density in the US is 7.4 lb/ft² during the winter and 6.1 lb/ft² during the summer. This implies an improvement of roughly 12%.⁷² The paper also mentions that under the improved conditions, birds will have access to litter, perches and improved lighting.⁷³ As far as standard practices go today, housing is usually littered, but lacks perches and access to natural light.⁷⁴

⁷¹ "Commercial Poultry Embryo Sexing a Step Closer," PoultryWorld, accessed October 7, 2018, <https://www.poultryworld.net/Genetics/Articles/2016/5/Commercial-poultry-embryo-sexing-a-step-closer-2802833W/>; "Commercial Chick Sexing Machine in Development," Farmers Weekly, June 2, 2016, <https://www.fwi.co.uk/poultry/commercial-chick-sexing-machine-development>.

⁷² "Breeding for Better Welfare: Genetic Goals for Broiler Chickens and Their Parents", Ms Dawkins and R Layton, *Animal Welfare* 21, no. 2 (May 1, 2012): 147–55, <https://doi.org/10.7120/09627286.21.2.147>.

⁷³ "Sodexo Reinforces an Already Robust Commitment to Animal Welfare by Working with U.S. Suppliers to Improve Conditions of Broiler Chickens," accessed September 26, 2018, <https://www.prnewswire.com/news-releases/sodexo-reinforces-an-already-robust-commitment-to-animal-welfare-by-working-with-us-suppliers-to-improve-conditions-of-broiler-chickens-300381993.html>.

"Sustainable Sourcing | SUBWAY.Com - United States (English)," SUBWAY, accessed September 26, 2018, <https://www.subway.com:443/en-US/AboutUs/SocialResponsibility/SustainableSourcing>.

"Chipotle — Animal Welfare: Broiler Commitment," accessed September 26, 2018, <https://www.chipotle.com/chicken-welfare>.

⁷⁴ "Ending Factory Farming as Soon as Possible - 80,000 Hours." "The Life of: Broiler chickens", Compassion in World Farming, <https://www.ciwf.org.uk/media/5235306/The-life-of-Broiler-chickens.pdf>.

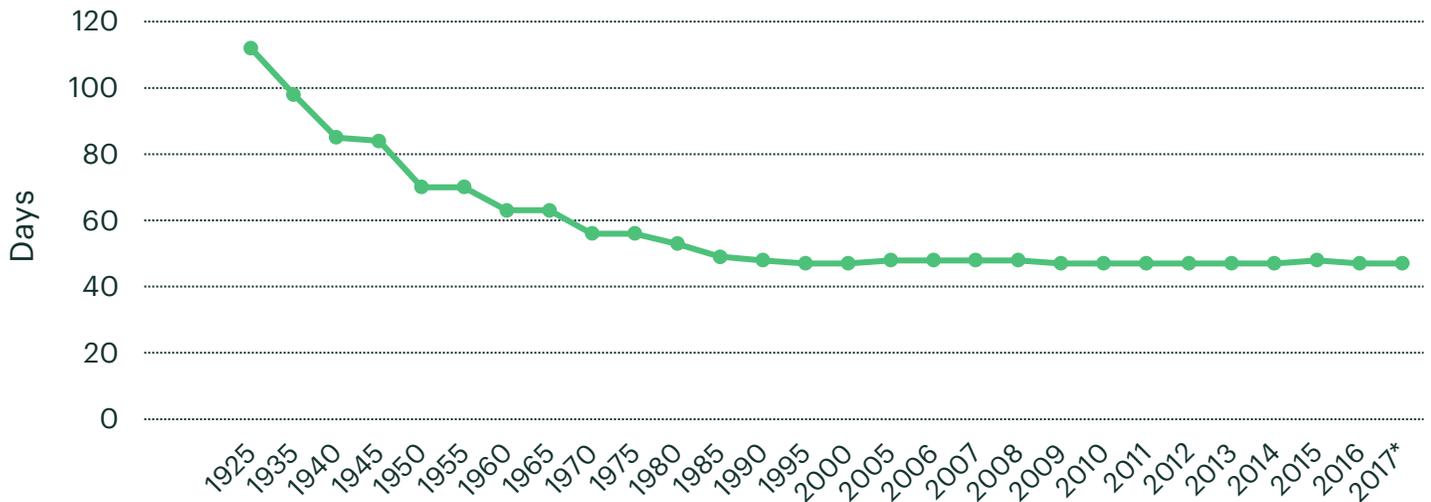


Breeds selected for better welfare

In recent decades, broiler chickens have been progressively genetically selected to optimise for fast growth, such that the average market age has decreased and the average market weight has increased. Figures 5 and 6 below depict changes in the US market.

Figure 5.

Average market age for broilers in the US

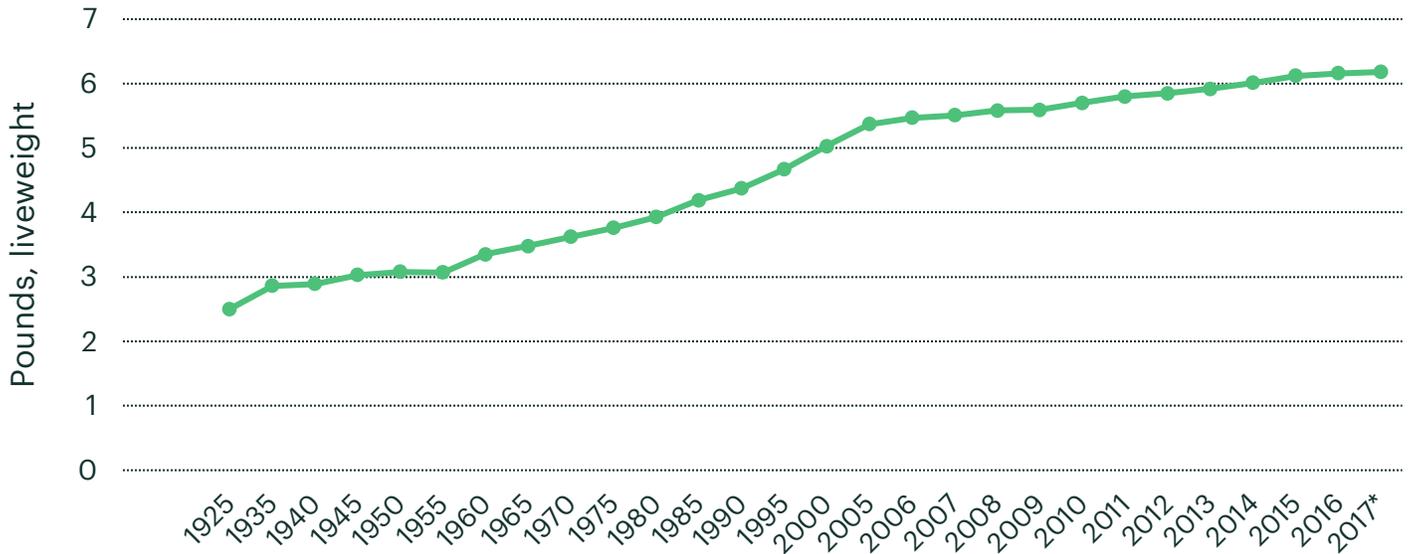


Source: National Chicken Council, <https://www.nationalchickencouncil.org/about-the-industry/statistics/u-s-broiler-performance/>



Figure 6.

Average market weight for broilers in the US



Source: National Chicken Council, <https://www.nationalchickencouncil.org/about-the-industry/statistics/u-s-broiler-performance/>

This process has correlated with a decrease in animal welfare. A 2010 report by the European Food Safety Authority (EFSA) reported that, “The major concerns for animal welfare are leg problems, footpad dermatitis, ascites and sudden death syndrome. These concerns for animal welfare have been associated with genetic selection for fast growth and more efficient production.”⁷⁵

- Skeletal problems affect the birds’ ability to move and cause lameness. This can cause pain in itself, as well as making them less able to get food and water. This might lead to frustration,

⁷⁵ EFSA Panel on Animal Health and Welfare. “Scientific Opinion on the influence of genetic parameters on the welfare and the resistance to stress of commercial broilers.” *EFSA Journal* 8, no. 7 (2010): 1666.



stress and suffering.⁷⁶ Several studies suggest fast-growing breeds have worse walking abilities than slow-growing birds.⁷⁷

- Footpad dermatitis consists of lesions of the skin, which can get inflamed and infected. Evidence suggests that it is possible to select breeds that would be less susceptible to footpad dermatitis.⁷⁸
- Ascites is an accumulation of fluid in the abdominal cavity, which can lead to cardiac failure. Sudden death syndrome is an umbrella term used for the many different causes of cardiac arrest in young animals. Evidence suggests that fast-growing strains have a higher risk of ascites and sudden death syndrome.⁷⁹

⁷⁶ Bokkers EAM and Koene P, 2004. "Motivation and ability to walk for a food reward in fast- and slowgrowing broilers to 12 weeks of age." *Behavioural Processes*, 67, 121-130.

Bokkers EAM, Zimmerman PH, Rodenburg TB and Koene P, 2007. "Walking behaviour of heavy and light broilers in an operant runway test with varying durations of feed deprivation and feed access." *Applied Animal Behaviour Science*, 108, 129-142.

⁷⁷ Van Middelkoop K, Van Harn J, Wiers WJ, Van Horne P, 2002. "Slower growing broilers pose lower welfare risks." *World Poultry*, 18, 8, 20-21.

Knowles TG, Kestin SC, Haslam SM, Brown SN, Green LE, Butterworth A, Pope SJ, Pfeiffer D and Nicol CJ, 2008. "Leg Disorders in Broiler Chickens: Prevalence, Risk Factors and Prevention." *PloS ONE*, 3, e1545.

Kestin SC, Knowles TG, Tinch AE and Gregory NG. 1992. "Prevalence of leg weakness in broiler chickens and its relationship with genotype." *Veterinary Record*, 131, 9, 190-194.

⁷⁸ Allain V, Mirabito L, Arnould C, Colas M, Le Bouquin S, Lupo C and Michel V, 2009. "Skin lesions in broiler chickens measured at the slaughterhouse: relationships between lesions and between their prevalence and rearing factors." *British Poultry Science* 50, 4, 40-417.

Sanotra GS, Berg C, Lund JD, 2003. "A comparison between leg problems in Danish and Swedish broiler production. *Animal Welfare*" 12, 677-683.

Van Middelkoop K, Van Harn J, Wiers WJ, Van Horne P, 2002. "Slower growing broilers pose lower welfare risks." *World Poultry*, 18, 8, 20-21.

Kjaer JB, Su G, Nielsen BL, Sorensen P, 2006. "Foot pad dermatitis and hock burn in broiler chickens and degree of inheritance." *Poultry Science*, 85, 8, 1342-1348.

Akbas Y, Yalcin S, Ozkan S, Kirkpinar F, Takma C, Gevrekci Y, Guler HC and Turkmut L, 2009. "Heritability estimates of tibial dyschondroplasia, valgus-varus, foot-pad dermatitis and hock burn in broiler." *Archiv Für Geflugelkunde*, 73, 1-6.

Ask B, 2010. "Genetic variation of contact dermatitis in broilers." *Poultry Science*, 89, 866-875.

⁷⁹ Gardiner EE, Hunt JR, Newberry RC, and Hall JW. 1988. "Relationships between age, body weight, and season of the year and the incidence of sudden death syndrome in male broiler chickens." *Poultry Science* 67:1243-9.

Druyan S and Cahaner A, 2007. "Segregation among test-cross progeny suggests that two complementary dominant genes explain the difference between ascites-resistant and ascites-susceptible broiler lines." *Poultry Science*, 86, 2295-2300.

Gonzales E, Buyse J, Takita TS, Sartori JR and Decuypere E, 1998. "Metabolic disturbances in male broilers of different strains. 1. Performance, mortality, and right ventricular hypertrophy." *Poultry Science*, 77, 1646-1653

Maxwell, M. H., and G. W. Robertson. 1997. "World broiler ascites survey" 1996. *Poult. Int.* 36:16-19

De Greef, K. H., L. L. G. Janss, A. L. J. Vereijken, R. Pit, and C. L. M. Gerritsen. 2001. "Disease-induced variability of genetic correlations: Ascites in broilers as a case study." *J. Anim. Sci.* 79:1723-1733.



- Some of the broilers are grown to adulthood, to be used for reproduction. They are called ‘breeders’. The fast-growing strains become obese, which causes serious health concerns and affects their ability to reproduce. To avoid this, farmers restrict their food intake to the point where birds show signs of chronic hunger.⁸⁰ The 2012 EFSA report points out that, “Research is needed to identify genetic and management strategies for minimising the need of breeding birds for feed restriction.”⁸¹ Some initial evidence suggests genetic selection might help mitigate this problem.⁸²

In 1991, The Guardian quoted professor John Webster of the University of Bristol School of Veterinary Science who stated,

“Broilers are the only livestock that are in chronic pain for the last 20 per cent of their lives. They don’t move around, not because they are overstocked, but because it hurts their joints so much”.⁸³

One of the experts we contacted for this report noted that welfare problems affect broilers for maybe half of their lifetime.⁸⁴

This suggests that broiler welfare could be substantially improved by selecting strains that decrease the risk of these problems.

Van Middelkoop K, Van Harn J, Wiers WJ, Van Horne P, 2002. “Slower growing broilers pose lower welfare risks.” *World Poultry*, 18, 8, 20-21.

⁸⁰ MS Dawkins and R Layton, “Breeding for Better Welfare: Genetic Goals for Broiler Chickens and Their Parents,” *Animal Welfare* 21, no. 2 (May 1, 2012): 147–55, <https://doi.org/10.7120/09627286.21.2.147.z>

J. A. Mench, “Broiler Breeders: Feed Restriction and Welfare,” *World’s Poultry Science Journal* 58, no. 1 (2002): 23–29.

⁸¹ Ingrid de Jong et al., “Scientific Report Updating the EFSA Opinions on the Welfare of Broilers and Broiler Breeders,” *EFSA Supporting Publications* 9, no. 6 (2012): 295E.

⁸² Kokou Tona et al., “Comparison of Embryo Physiological Parameters during Incubation, Chick Quality, and Growth Performance of Three Lines of Broiler Breeders Differing in Genetic Composition and Growth Rate,” *Poultry Science* 83, no. 3 (2004): 507–513.

E. K. M. Jones 1 et al., “Genotype, Dietary Manipulation and Food Allocation Affect Indices of Welfare in Broiler Breeders,” *British Poultry Science* 45, no. 6 (2004): 725–737.

⁸³ The Humane Society of the United States, “The Welfare of Animals in the Meat, Egg, and Dairy Industries,” https://animalstudiesrepository.org/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1004&context=hsus_reps_impacts_on_animals.

⁸⁴ Email exchange. The expert prefers to remain anonymous.



It is an open question the extent to which improvements in welfare need to be associated with slower growth. If improvements in chicken welfare do require adopting slow-growing breeds, the overall assessment of the change needs to account for the costs associated with this shift. Slow-growing breeds might yield less usable meat at market weight.⁸⁵ For instance, an industry source suggests 48% of their body weight versus 55% for current breeds.⁸⁶ If true, this suggests that 14.5% more chickens would have to be raised to yield the same amount of meat. If the life of these chickens is overall still more painful than enjoyable, this might bring about more suffering than it averts. Relatedly, slower breeds might require more resources to be invested in the production of the same amount of meat, leading to increased environmental costs.⁸⁷

One of the experts we interviewed noted that it may be possible to have healthy but *relatively* fast-growing birds, and that the focus should be placed on adoption of strains bred for better welfare, rather than slow-growing breeds.⁸⁸ A 2012 paper argues for the possibility of reconciling speed of growth and welfare concerns, but notes that, in general, trade-offs might persist among factors such as economic profitability, chicken welfare, and environmental sustainability.⁸⁹

We take these concerns into account when estimating the size of the benefit brought about by corporate campaigns and the likelihood that campaigns will bring about these benefits for animals affected. Donors should be aware that although we think such changes are likely to be positive, they also involve a low but non-negligible risk of harm. As previously mentioned, we report THL’s response to these concerns in [Appendix 3](#) below. Donors adverse to this risk may decide to wait to donate until we complete a wider investigation of animal welfare interventions.

⁸⁵ We are grateful to Harrison Nathan for raising this point during his review of a previous draft of this report.

⁸⁶ Elanco Animal Health, “The Sustainability Impacts of Slow-Growing Broiler Production in the US,” n.d., 8.

Shields, Raj, and Shields, A Critical Review of Electrical Water-Bath Stun Systems for Poultry Slaughter and Recent Developments in Alternative Technologies.

⁸⁷ “‘Slow’ Chickens? Not so Fast. Why an Animal-Welfare Solution Is More Complicated than Some Expected,” accessed October 7, 2018, <https://www.theglobeandmail.com/canada/article-slow-chickens-not-so-fast-why-an-animal-welfare-solution-is-more/>.

⁸⁸ Email exchange. The expert prefers to remain anonymous.

⁸⁹ Dawkins and Layton, “Breeding for Better Welfare.”



Change in slaughtering practice

The final major way that companies have committed to improve broiler welfare is to use a multi-step controlled atmosphere stunning system.⁹⁰ In this system, chickens are made unconscious, or ‘stunned’, before slaughter. There are two common stunning practices: electrical and controlled atmospheric systems. The former consists of making the birds wet and then exposing them to an electrical charge. The latter consists of using gases (such as nitrogen, argon or carbon dioxide) that deprives the chickens of oxygen.⁹¹ A new version of a controlled atmospheric system, called a ‘low atmospheric pressure system’ works by gradually removing air (and therefore also oxygen) from a chamber containing the birds. Some recent evidence suggests this might be an improvement over other methods.⁹² However, the current phrasing of corporate commitments made so far does not refer to this technology, so for the purpose of this report we cannot assume that this improved method is a realistic option at present time.

Both electric systems and controlled atmospheric systems have drawbacks. Electrical stunning is associated with increased risk of inversion and live shackling (whereby birds are turned upside-down and shackled while still conscious),⁹³ pre-stun shocks if the birds’ wings touch the water before their

⁹⁰ “Rendering chickens unconscious prior to shackling using a multi-step controlled atmosphere processing system that’s widely hailed as more humane.” “Sodexo Reinforces an Already Robust Commitment to Animal Welfare by Working with U.S. Suppliers to Improve Conditions of Broiler Chickens.”

“By 2024, our broiler chicken in North America will be processed using controlled or low atmospheric stunning or controlled atmospheric killing as well in Canada. One of our suppliers will begin to transition to controlled atmospheric stunning (CAS) in 2017. However, our suppliers are also evaluating alternatives intended to enhance animal welfare to the CAS approach.” “Sustainable Sourcing | SUBWAY.Com - United States (English).”

“Slaughter. Process chickens in a manner that utilizes a multi-step controlled-atmosphere processing system.” “Chipotle — Animal Welfare: Broiler Commitment.”

⁹¹ “National Chicken Council Brief on Stunning of Chickens,” The National Chicken Council (blog), February 8, 2013, <https://www.nationalchickencouncil.org/national-chicken-council-brief-on-stunning-of-chickens/>.

⁹² Simon More et al., “Low Atmospheric Pressure System for Stunning Broiler Chickens,” *Efsa Journal* 15, no. 12 (2017). P. Joseph et al., “Broiler Stunning Methods and Their Effects on Welfare, Rigor Mortis, and Meat Quality,” *World’s Poultry Science Journal* 69, no. 1 (March 2013): 99–112, <https://doi.org/10.1017/S0043933913000093>.

“Controlled Atmosphere Systems for Broiler Chickens | Compassion in Food Business,” accessed September 27, 2018, <https://www.compassioninfoodbusiness.com/resources/broiler-chickens/controlled-atmosphere-systems-for-broiler-chickens/>.

⁹³ Gentle and Tilston (2000).



heads,⁹⁴ cutting the neck while still conscious, and bleeding to death while recovering consciousness.⁹⁵ A 2010 critical review also found that:

“The existing electrical water-bath stunner settings, particularly those used in US slaughter plants, are not necessarily based on sound scientific data that they produce a consistent, immediate stun, and research indicates that they are not effective in all birds.”⁹⁶

Controlled atmospheric systems are associated with breathing difficulties, tipping and tilting,⁹⁷ and convulsive wing flapping (during a period in which it is not clear whether the animal is unconscious).⁹⁸

The review of electric systems mentioned above concluded that controlled atmospheric systems eliminate “the problems associated with handling and shackling conscious birds, painful pre-stun shocks, and variations in current that may or may not render birds unconscious and insensible without causing avoidable pain and suffering.” And that all gas mixtures used at the time had “bird welfare benefits when compared with the multiple bird, electrical water-bath stunning systems supplied with constant voltages.”⁹⁹

A more recent paper that directly compared welfare effects of electric systems and controlled atmospheric systems also estimated electric systems to carry a higher level of risk to animal welfare than controlled atmospheric systems.¹⁰⁰ The study was carried out as part of an assessment by EFSA, based on expert qualitative assessment: EFSA experts identified the main risks associated with each stunning intervention and then field experts were asked to rank these risks in terms of impact on animal welfare, based on the intensity of the pain, the probability of its occurrence, and its duration.

⁹⁴ Raj and Tserveni-Gousi (2000).

⁹⁵ More et al., “Low Atmospheric Pressure System for Stunning Broiler Chickens.”

⁹⁶ Sara J. Shields, A. B. M. Raj, and Sara J. Shields, *A Critical Review of Electrical Water-Bath Stun Systems for Poultry Slaughter and Recent Developments in Alternative Technologies*, 2010.

⁹⁷ More et al., “Low Atmospheric Pressure System for Stunning Broiler Chickens.”

⁹⁸ DEF McKeegan et al., “Physiological and Behavioural Responses of Broilers to Controlled Atmosphere Stunning: Implications for Welfare,” 2007, 19.

A. M. L. Coenen et al., “Remote Monitoring of Electroencephalogram, Electrocardiogram, and Behavior during Controlled Atmosphere Stunning in Broilers: Implications for Welfare,” *Poultry Science* 88, no. 1 (January 1, 2009): 10–19, <https://doi.org/10.3382/ps.2008-00120>.

⁹⁹ Shields, Raj, and Shields, *A Critical Review of Electrical Water-Bath Stun Systems for Poultry Slaughter and Recent Developments in Alternative Technologies*.

¹⁰⁰ More et al., “Low Atmospheric Pressure System for Stunning Broiler Chickens.”



How large was the benefit for each bird affected?

For each type of campaign, we estimate the benefit brought about per bird affected. We express benefits in terms of ‘hen-year shift from battery cages to aviaries’, by which we mean ‘an outcome as good as shifting one hen from a battery cage to an aviary system for one year’. We do so in order to compare different types of benefits.

Cage-free benefits

By definition, shifting a hen for a year from battery cage confinement to aviaries is equivalent to the unit employed. Hens live approximately one year, so the number of chickens affected per year is roughly equivalent to one ‘hen-year’ shift.

Broiler benefits

We estimate that shifting a broiler chicken from current to improved systems for one year is roughly as good as shifting a hen from battery cage confinement to aviaries for a year. Our judgment is based on a comparison of the benefits accruing to birds in each case (see Table 1, below).



Table 1.

Comparison between shift from battery cage to cage-free systems and shift from current to improved broilers conditions

Benefit type	Battery cage -> cage-free	Current -> improved broilers conditions ¹⁰¹
Amount of space per bird	80% gain in space per bird	12% gain in space per bird
Quality of space	Litter and perches	Litter, perches and improved lighting
Change in breed	x	Welfare considerations included in choice of strains bred (which could affect leg problems, footpad dermatitis, ascites and sudden death syndrome)
Change in slaughtering practice	x	Shift from electric systems to multi-step controlled atmosphere processing

The table highlights that chickens shifting from battery cages to aviaries would enjoy 80% more space, while broiler birds would only enjoy a 12% gain. Improvements in terms of quality of the space seem roughly comparable. The shift concerning breed selection and slaughtering affect broilers, but not egg-laying hens. Overall, it seems plausible that the benefits per unit of time deriving from the shifts are roughly comparable. However, this estimate is highly uncertain, since no literature directly addressed the comparability of different types of benefits.

In order to estimate the amount of ‘hen-year shift from battery cages to aviaries’ brought about per broiler chicken affected, we need to adjust for their life expectancy. Average age at slaughter for broiler chickens is about 5 weeks. Accordingly, we estimate that shifting one broiler chicken from

¹⁰¹ We focus on improvements mentioned in the case studies analysed.



current to improved broiler welfare is roughly 10% as good as one hen-year shift from battery cages to aviaries.

Chick culling benefits

We estimate that avoiding chick culling for one chick is roughly 1% as good as one hen-year shift from battery cages to aviaries. This is because, even though the pain experienced during culling is likely to be more intense than the pain experienced by hens confined in battery cages and broilers raised in current systems, the culling process is much shorter, lasting at most a few minutes.

The above are subjective estimates, based on considerations outlined. We employ them in the cost-effectiveness model for THL, which we describe below. Should readers disagree with the subjective estimates provided, we encourage them to input their own estimates in the model, to check how this affects the overall cost-effectiveness analysis.

How likely are companies to follow through with their commitments?

To evaluate the extent to which commitments are likely to improve the conditions of farmed animals, we also need to consider the likelihood that companies will follow through with their commitments.

There are general reasons to question whether companies' commitments will in fact be honoured. In particular, pledges are not legally binding and there are examples of companies breaking their pledges.¹⁰²

When it comes to cage-free commitments, we think it is more likely than not that benefits will materialise. This is because aviaries (the system that would replace battery cages) are already commercially available. Moreover, a system is in place to track these commitments: individual companies report their progress towards their cage-free commitments to Compassion in World

¹⁰² Sarah Butler, "Sainsbury's Accused of Breaking Pledge on Chicken Welfare," *The Guardian*, April 20, 2018, sec. Business, <https://www.theguardian.com/business/2018/apr/20/sainsburys-accused-breaking-pledge-chicken-welfare-rspca>; Julia Belluz, "Walmart Just Promised to Source Only Cage-Free Eggs. Here's What That Means.," *Vox*, March 31, 2016, <https://www.vox.com/2016/3/31/11333814/cage-free-eggs-free-range-organic>.



Farming, who report this data in their annual Eggtrack Report.¹⁰³ In 2018, 100 companies reported their progress, and 27 reported progress towards the 2026 deadline.

We believe that broiler commitments are less likely to bring about benefits than cage-free commitments. First, many of the benefits from broiler commitments are likely to come from shifts in breed selection but, as we discuss above, there are concerns about the possibility of developing breeds that improve animal welfare while keeping constant the number of animals raised and the environmental costs of farming.

Moreover, it is possible that there will be a trade-off between the size of benefits enjoyed by animals affected and the likelihood that companies will follow through with the commitments. On the one hand, if GAP requires the adoption of welfare-improving breeds that substantially curtail profits, companies might fail to comply. On the other hand, if the breeds required for GAP certification do not threaten profits, companies would be more likely to comply, but there is a risk that application of the standards would no longer correspond to welfare improvements for animals.¹⁰⁴

When assigning a probability to the scenario that companies will follow through with broiler commitments, we take the above concerns into account and consider the case in which this scenario brings about significant welfare improvements.

There is as yet no commercially available *in-ovo* egg sexing technology. However, different research groups working in Germany, the Netherlands and Canada had independently announced that the technology was getting closer to being commercially available between 2015 and 2016, before United Egg Producers made their commitment public.¹⁰⁵ We estimate chick culling commitments are roughly as likely to be implemented as broiler commitments.

¹⁰³ "Eggtrack report 2018W, Compassion in World Farming, <https://www.ciwf.com/media/7433934/eggtrack-2018-report.pdf>.

¹⁰⁴ We are grateful to Harrison Nathan for raising this point during his review of a previous draft of this report.

¹⁰⁵ "The Short, Brutal Life of Male Chickens," accessed November 9, 2018,

<http://america.aljazeera.com/articles/2015/2/20/the-short-brutal-life-of-male-chickens.html>.

"Embryo Sexing Could 'End Male Chick Culling Debate,'" Farmers Weekly, April 25, 2016,

<https://www.fwi.co.uk/poultry/embryo-sexing-end-male-chick-debate>.

"Chicken embryo tests can prevent practice of gassing billions of cockerels", accessed November 9, 2018.

<https://www.theguardian.com/environment/2016/may/27/chicken-embryo-tests-can-prevent-practice-of-gassing-billions-of-cockerels>.



Overall, we estimate there is a 60% probability that companies will follow through with cage-free commitments, a 30% probability they will follow through with broiler commitments and a 30% probability they will follow through with commitments to stop chick culling. These are subjective estimates, based on considerations outlined above. We employ those estimates in the cost-effectiveness model for THL, which we describe below. Once again, should readers disagree with the subjective estimates provided, we encourage them to input their own estimates in the model, to check how this affects the overall cost-effectiveness analysis.



3. Charity Recommendation: The Humane League

For the purpose of this report, we focused our attention on the most promising charities working on corporate campaigns. For a full description of the process employed, see [Appendix 1](#) below.

3.1. The Humane League: Summary

What do they do?

The Humane League (THL) conduct campaigns to persuade companies to adopt policies that improve the welfare of animals. They also engage in wider outreach and education programs.

Is there evidence the intervention works?

We assessed six case studies of their corporate campaigns to date, and concluded they played an important role in achieving significant improvements in corporate policies affecting animal welfare.

Is the intervention cost-effective?

The improvements brought about by THL through corporate campaigns concern different types of welfare gains, such as switching from battery farming to cage-free production systems, adopting improved policies for genetic selection and environmental conditions of broiler chickens, and abandoning the culling of male chicks. To be able to aggregate these different benefits, we use a common metric we label ‘hen-year shift from battery cages to aviaries equivalent’, which refers to an outcome as good as shifting a hen from battery cage confinement to aviaries for a year. We employ six case studies to estimate the extent to which THL brought forward the policies it worked on. We use a longer list of 37 case studies to estimate the total number of birds affected by their campaigns to date. To estimate costs, we consider THL’s budget from 2015 to date. We estimate their work brought about benefits roughly equivalent to roughly 10 hen-years shift from battery cages to aviaries per dollar spent. As we discuss in the intervention section, there is a very low yet non-negligible risk (5 – 10%) that the changes advocated by THL’s corporate campaigns could have harmful effects on the animals. We report THL’s response to these concerns in [Appendix 3](#) below. We reiterate that our overall estimate is that THL have significant positive effects, however donors should be aware of the risk.



Is it a strong organisation?

THL has a strong focus on evidence and effectiveness. They have been highly transparent in our communication.

Is there room for funding?

We estimate they could productively absorb an additional \$4.5 million up to the end of 2019. They would use these funds to hire additional staff to support international work in the UK and Mexico, and through the international coalition The Open Wing Alliance; hire additional program/campaign staff in the US; strengthen infrastructure by expanding their support staff; raise salaries and benefits for all staff to be in line with industry standards and retain talent in the long run.



3.2. What do they do?

THL works on improving animal welfare through corporate campaigns, outreach and education efforts. THL’s budget in 2018 was roughly \$7.5 million. They have organisers in Atlanta, Boston, Charlotte, Chicago, DC, Denver, Los Angeles, NYC, Philadelphia, San Diego, San Francisco and Seattle. They also run a program to train university students in the US in successful animal advocacy strategies. In addition, they have offices in Mexico, the UK and Japan.¹⁰⁶

Their work on corporate campaigns has so far mainly focused on cage-free, broiler welfare and chick culling in the US. We review some of their campaigns in detail [below](#). THL’s work on education and outreach includes online advertisements, social media, the website eatingveg.org, training programs for activists held on college campuses, as well as grassroots events encouraging consumers to reduce meat consumption. THL was unable to share a split of the budget across different activities: staff time is their largest expense but they do not track which programs staff spend their time on.¹⁰⁷

They also launched the Open Wing Alliance, an international network of organisations working on cage-free campaigns. Through the Open Wing Alliance, THL aims to scale up internationally the campaigning model tested in the US. THL provides grants and support to existing members. THL provides members of the network with training once a year and support through three dedicated staff members. In 2018, roughly \$900,000 of THL’s budget was dedicated to the Open Wing Alliance. Of this, \$400,000 was dedicated to grants, and the rest to staff and training expenses.¹⁰⁸

When selecting recipients for their grants, THL has prioritised countries where little work had already been done on animal welfare, or where little work had been done on corporate campaigns specifically. In the past two years, therefore, they have conducted training in Europe, and this year they plan to organise regional summits in Mexico and South Africa.¹⁰⁹

¹⁰⁶ “Our Story,” accessed October 3, 2018, <https://thehumaneleague.org/our-story/>.

¹⁰⁷ Email exchange with Michelle Kucerak, 25th September 2018.

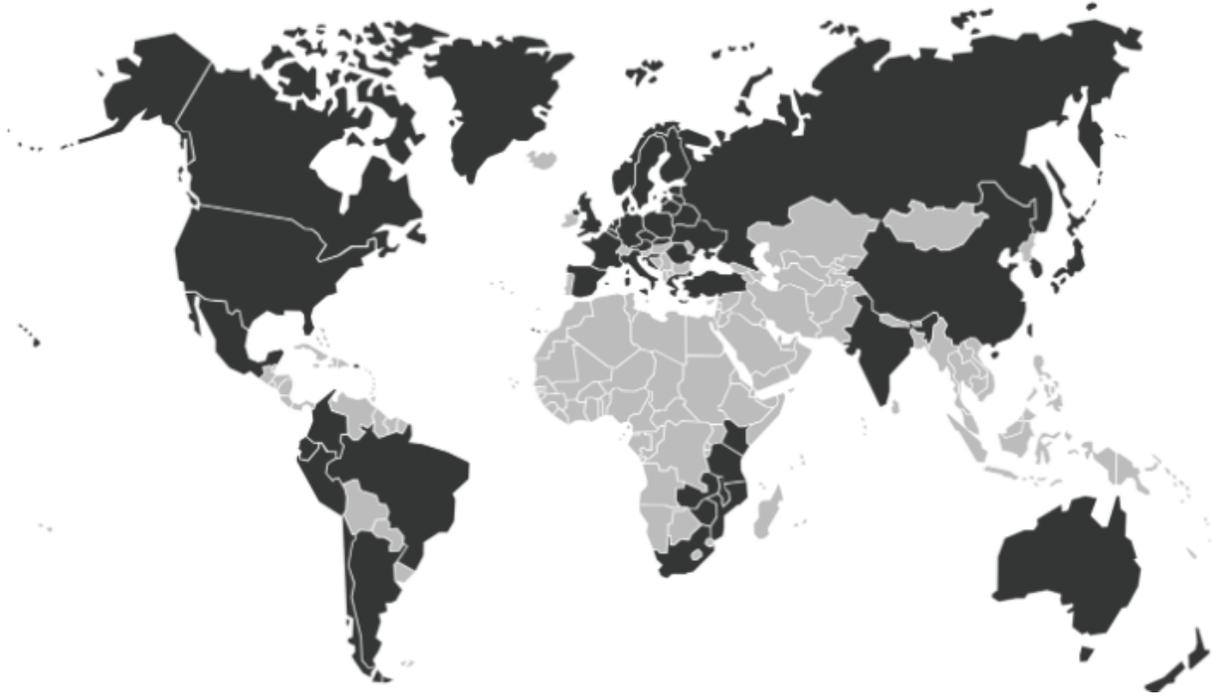
¹⁰⁸ Conversation with Michelle Kucerak, 4th October 2018.

¹⁰⁹ Conversation with Michelle Kucerak, 4th October 2018.



Figure 7.

Countries where members of the Open Wing Alliance operate (in black)



Source: The Open Wing Alliance, <https://openwingalliance.org/>

3.3. Is there evidence the intervention works?

As we discuss above, in this report we only focus on corporate campaigns. Accordingly, we only consider THL’s corporate campaigning work.

THL’s overall effectiveness depends on two factors: the effectiveness of the policies they campaign for, and whether their campaigns sped up the adoption of these policies. We tackled the first point in section 2.3, and concluded that these policies are likely to improve welfare for the affected animals. In this section, we focus on the second point.

To assess whether THL’s participation in campaigns sped up the adoption of the policies they advocated for, we assess six case studies:



- United Egg Producers, US male chick culling
- Chick-fil-A, US cage-free policy
- Sodexo, global cage-free policy
- Sodexo, US broiler policy
- Subway, US broiler policy
- Chipotle, US broiler policy

These case studies were chosen at random from the report THL compiled for Animal Charity Evaluators in 2017, which increases our confidence in the sample being representative.¹¹⁰

3.3.1. By how much do campaigns speed up policy change?

When evaluating the work of organisations that aim to shift policies, we look at the counterfactual impact of the organisation. This means we look at the difference between what happens as a result of your donation and what would have happened otherwise. We express the organisation's effect in terms of the number of years we estimate THL moves the policy forward by.

The likelihood that THL brought policy forward in time is affected by two considerations: (a) the importance of THL's role in bringing the policy about and (b) the strength of the evidence in favour of THL playing that role. The more important the role and the stronger the evidence, the higher the likelihood THL sped up the policy change.

In order to assess the first point, we look at whether other organisations were working on the issue, the extent to which THL played a leading role, and whether there is reason to think the policy change would have happened regardless of corporate campaigns occurring.

To assess the importance of THL's role in the campaign, each case study includes a description of the policy change, considerations in favour and (if relevant) against THL bringing the policy forward. To assess the strength of the evidence in favour of THL, each case study includes evidence of the policy

¹¹⁰ "The Humane League's Accomplishments The Humane League's Budget 2016–2017", Animal Charity Evaluators website, <https://animalcharityevaluators.org/wp-content/uploads/2017/11/the-humane-leagues-accomplishments-and-budget-2016-2017.pdf>.



change, evidence in favour and (if relevant) against THL bringing the policy forward. All assessments are informed by a few general considerations that we outline below.

In most cases, THL participated in campaigns alongside other organisations, such as The Humane Society of the United States, and Compassion in World Farming. Organisations often play different and complementary roles that are needed to secure the overall success of a campaign.¹¹¹ Our understanding is that THL often plays a role that is complementary to the one played by many other organisations: while several other groups establish more collaborative relationships with companies, THL often runs more confrontational campaigns. Both strategies are needed to obtain commitments from companies.

Relatedly, it is unclear whether the fact that other organisations playing a more collaborative role contributed to the success of a campaign should count as evidence against the importance of THL's role. On one side, the fact that other organisations were working on the campaign suggests the change was more likely to happen at some point down the line. On the other side, if THL plays a role that is complementary to the one played by other organisations, their involvement is not a reason to discount THL's effectiveness. Having weighted these considerations, we interpret other organisations' work on the campaign as a weak consideration against THL being necessary to bring the policy forward in time.

We are unsure to what extent this more confrontational role would have been played by other actors had THL not been active in this space. Different sources reported different accounts of the extent to which THL's work could have been replaced by other organisations.¹¹² However, all sources were unanimous in stressing THL is extremely effective in fulfilling the role they play. To take this into account, we conservatively estimate that THL brought forward for a maximum of one and a half years the policies it worked on. As a reference, OpenPhil estimates that corporate campaigns move policies forward by five years, and stresses this is likely to be an under-estimate of the effect.¹¹³

¹¹¹ Conversation with Lewis Bollard, 4 October 2018.

¹¹² Conversation with Lewis Bollard 4th October 2018, and Harrison Nathan 22nd of October 2018.

¹¹³ "Initial Grants to Support Corporate Cage-Free Reforms."



To assess the strength of the evidence in favour, we look at evidence including: statements made by companies, online press articles on the policy change, evidence of campaigns occurring (such as online petitions and engagement on social media), and opinion of ‘referees’ – people who do not work for THL but are acquainted with their work. We give stronger weight to publicly available evidence and evidence provided by neutral observers.

The evidence available was limited. The referee available to answer our questions was Lewis Bollard, Programme Officer in Animal Welfare at OpenPhil. Though we would have liked to talk to representatives from companies who changed their policy as a result of a THL’s work, THL reported that the staff at such companies are unlikely to act as referees, because THL’s campaigns are often confrontational.¹¹⁴

Because THL often plays a confrontational role, companies may be unwilling to publicly recognise their importance to the decision-making. We would expect it to be harder to find evidence in favour of THL’s role than it would be the case for other animal advocacy organisations, even if their role were more significant. We therefore interpret lack of companies’ recognition of THL’s work as at best weak evidence against THL having brought the policy forward in time.

For the reasons outlined here, assessing how much THL brought forward a particular corporate policy change is a highly uncertain enterprise, involving as it does large information gaps, potential overdetermination, and substantial co-dependence between various actors. We therefore have tried to err on the side of caution in the relevant estimates. Finally, we believe that it is important to try to quantify the effect that THL had, even if such quantification is necessarily uncertain. Using adjectives rather than numbers invites divergent interpretations,¹¹⁵ whereas quantification at least clarifies the source of potential disagreement. As stressed above, should readers disagree with the subjective estimates provided, we encourage them to input their own estimates in the model, to check how this affects the overall cost-effectiveness analysis.

¹¹⁴ Conversation with Michelle Kucerak, 20th September 2018.

¹¹⁵ M. Granger Morgan, “Use (and Abuse) of Expert Elicitation in Support of Decision Making for Public Policy,” *Proceedings of the National Academy of Sciences* 111, no. 20 (May 20, 2014): 7176–84, <https://doi.org/10.1073/pnas.1319946111>.



3.3.2. United Egg Producers, male chick culling policy (US)

The first case study we consider focuses on the commitment of United Egg Producers to end its chick culling practices.

What role did THL play?

In this section we provide reasons in favour and against thinking THL brought forward United Egg Producers ending male chick culling.

The policy change

United Egg Producers is a cooperative of US farmers.¹¹⁶ It represents hatcheries that produce 95% of all eggs produced in the US.¹¹⁷ In 2016, the company committed to end chick culling “by 2020 or as soon as it is commercially available and economically feasible”, replacing the practice with *in-ovo* egg sexing technology. It is estimated this will spare suffering for 260 million chicks each year.¹¹⁸ Though each chick only suffers a short period of time, this would still be a substantial benefit.

Considerations in favour of THL bringing forward the shift

Prior to this, THL staff had shared with them their intention to start a campaign on chick culling. THL staff had also met in person with Chad Gregory, President of United Eggs Producers, for exclusive conversations on the topic.

It is unlikely that other organisations were specifically pursuing campaigning efforts on this topic at the time or were involved in the specific interaction that led United Eggs Producers to endorse a policy on male chick culling.¹¹⁹

¹¹⁶ “About,” *United Egg Producers* (blog), accessed October 4, 2018, <https://unitedegg.com/about/>.

¹¹⁷ <https://www.facebook.com/karin.jacobsonbrulliard>, “Egg Producers Pledge to Stop Grinding Newborn Male Chickens to Death,” *Washington Post*, accessed October 4, 2018, <https://www.washingtonpost.com/news/animalia/wp/2016/06/10/egg-producers-say-theyll-stop-grinding-male-chicks-as-soon-as-theyre-born/>.

¹¹⁸ “United Egg Producers announces the elimination of chick culling by 2020”, *The Humane League* <https://thehumaneleague.org/files/20160609%20United%20Egg%20Producers%20Announces%20Elimination%20of%20Chick%20Culling%20by%202020.pdf>.

¹¹⁹ Conversation with Lewis Bollard, 4th October 2018.



In October 2018, the Foundation for Food and Agriculture Research announced \$6 million in prizes for the development of *in-ovo* sexing technologies. The prize was introduced at the United Egg Producers' Annual Board Meeting and Executive Conference, which gives some reason to believe the organisation's commitment affected the decision.¹²⁰ It is possible the prize will incentivise further research on the topic, bringing the policy forward in time.

Considerations against THL playing a central role

The commitment qualifies the timeline by specifying "by 2020 or as soon as it is commercially available and economically feasible", which suggests the company might delay the implementation of the policy by questioning the economic feasibility of the technology.

There are reasons to believe companies might have had independent reasons to end chick culling by adopting *in-ovo* sexing technologies.¹²¹ This is because *in-ovo* sexing is expected to eliminate costs resulting from incubating male eggs all the way to hatching.¹²² Different research groups working in Germany, the Netherlands and Canada had independently announced that the technology was getting closer to being commercially available between 2015 and 2016, before United Egg Producers made their commitment public.¹²³

¹²⁰ "FFAR Offers \$6 Million for In-Ovo Sexing Solution," accessed November 9, 2018, <https://www.wattagnet.com/articles/35884-ffar-offers-6-million-for-in-ovo-sexing-solution>.

¹²¹ We are grateful to Harrison Nathan for raising this point during his review of a previous draft of this report.

¹²² Doreen Göhler, Björn Fischer, and Sven Meissner, "In-Ovo Sexing of 14-Day-Old Chicken Embryos by Pattern Analysis in Hyperspectral Images (VIS/NIR Spectra): A Non-Destructive Method for Layer Lines with Gender-Specific down Feather Color," *Poultry Science* 96, no. 1 (January 1, 2017): 1–4, <https://doi.org/10.3382/ps/pew282>.

¹²³ "The Short, Brutal Life of Male Chickens."

"Embryo Sexing Could 'End Male Chick Culling Debate.'"

"Chicken embryo tests can prevent practice of gassing billions of cockerels", accessed November 9, 2018.

<https://www.theguardian.com/environment/2016/may/27/chicken-embryo-tests-can-prevent-practice-of-gassing-billions-of-cockerels>.



In previous years, undercover investigations on chick culling had been released by other animal advocacy organisations, including Farm Forward, Compassion Over Killing and Mercy for Animals.¹²⁴ In 2014, Unilever made a commitment to fund research to find alternatives to this practice.¹²⁵

What is the evidence in support of this account?

In this section we outline the main evidence in support of the account provided above.

Evidence of the policy change

- A joint press release from THL and United Eggs Producers mentioning the commitment was made after exclusive conversations between the two organisations:

“Following exclusive conversations with The Humane League, United Egg Producers announced today that it will eliminate the culling of male chicks at egg-laying hen hatcheries by 2020 or as soon as it is commercially available and economically feasible, replacing the practice with in-ovo egg sexing technology.”

Joint press release from United Eggs Producers and THL¹²⁶

Evidence in favour of THL playing a central role

- The Humane League being referred to as the organisation who “negotiated the agreement” by articles reporting the story:

¹²⁴ “WATCH: Baby Chicks Ground Up Alive at Maple Leaf Hatchery,” Hatchery Horrors, accessed October 4, 2018, <http://canadahatchery.mercyforanimals.org/>.

Compassion Over Killing | www.cok.net, “Cal-Cruz Hatcheries Animal Abuse Investigation,” Compassion Over Killing, accessed October 4, 2018, <http://cok.net/inv/cal-cruz/>.

“By 2020, Male Chicks May Avoid Death By Grinder,” accessed September 19, 2018,

<https://www.nationalgeographic.com/people-and-culture/food/the-plate/2016/06/by-2020--male-chicks-could-avoid-death-by-grinder/>!

¹²⁵ “Eliminating Male Chick Culling in the Egg Industry | Compassion in Food Business,” accessed October 4, 2018,

<https://www.compassioninfoodbusiness.com/our-news/2015/11/eliminating-male-chick-culling-in-the-egg-industry>.

“Farm Animal Welfare,” Unilever global company website, accessed October 4, 2018, <https://www.unilever.com/sustainable-living/what-matters-to-you/farm-animal-welfare.html>.

¹²⁶ “United Egg Producers announces the elimination of chick culling by 2020”, The Humane League

<https://thehumaneleague.org/files/20160609%20United%20Egg%20Producers%20Announces%20Elimination%20of%20Chick%20Culling%20by%202020.pdf>.



“United Egg Producers [...] announced Thursday that it would end this “culling” of millions of chicks by 2020, or as soon as it’s “economically feasible” and an alternative is “commercially available,” according to the Humane League, which negotiated the agreement.”

Washington Post¹²⁷

“Why were egg producers ever grinding up newborn chicks to begin with? Basically, because they’re useless to the egg industry, explained David Coman-Hidy, executive director of The Humane League, a farm animal protection group that negotiated the agreement.”

Huffington Post¹²⁸

“The huge policy shift, which has the potential to reshape the egg industry, was negotiated and announced by The Humane League, a small farm-animal welfare nonprofit staffed by and focused on millennials.”

National Geographic¹²⁹

- Part of the e-mail correspondence between THL and United Eggs Producers (confidential).
- Conversation with Lewis Bollard, who reported it is unlikely that other organisations were specifically pursuing campaigning efforts on this topic at the time or were involved in the specific interaction that led United Eggs Producers to endorse a policy on male chick culling.¹³⁰
- Online press reporting the prize offered by the Foundation for Food and Agricultural Research, and their connection with United Egg Producers:

“The Foundation for Food and Agriculture Research (FFAR) plans to offer as much as \$6 million in prizes for the development of technologies that can accurately and quickly determine the gender of

¹²⁷ <https://www.facebook.com/karin.jacobsonbrulliard>, “Egg Producers Pledge to Stop Grinding Newborn Male Chickens to Death.”

¹²⁸ “Egg Farmers Say They’ll Stop Grinding Up Millions Of Chicks Alive,” accessed October 4, 2018, https://www.huffingtonpost.co.uk/entry/egg-producers-killing-male-chicks-stop_us_575b0adde4b00f97fba8406f.

¹²⁹ “By 2020, Male Chicks May Avoid Death By Grinder,” accessed September 19, 2018, <https://www.nationalgeographic.com/people-and-culture/food/the-plate/2016/06/by-2020--male-chicks-could-avoid-death-by-grinder/>.

¹³⁰ Conversation with Lewis Bollard, 4th October 2018.



layer chick eggs before they hatch, also known as *in-ovo* sexing. The FFAR reward program, known as the Egg-Tech Prize, was introduced October 17 at the United Egg Producers' (UEP) Annual Board Meeting and Executive Conference.”

WattagNet.com¹³¹

Evidence against THL playing a central role

- Videos of undercover investigations on chick culling released by Farm Forward, Compassion Over Killing and Mercy for Animals.¹³²
- Online press reporting in-ovo sexing would reduce costs for companies and reporting research groups working in Germany, the Netherlands and Canada had independently announced that the technology was getting closer to being commercially available, including:

“A motley crew of animal-rights groups and academic researchers at institutions such as the University of Leipzig in Germany are working on innovative alternatives. Their most practical solution, which may come to a factory farm near you in just a couple of years' time, is essentially the chicken version of gender-selective abortion. The technology, which has been successfully tested in labs, allows hatcheries to determine with extreme accuracy a chick's gender even before it hatches.”

Aljazeera America¹³³

“Trade body Egg Farmers of Ontario has patented a process which it claims can determine the sex of a chick pre-incubation. [...] The discovery came out of work with Quebec's McGill University to determine the hatchability of eggs based on a novel candling technique”

¹³¹ “FFAR Offers \$6 Million for In-Ovo Sexing Solution,” accessed November 9, 2018, <https://www.wattagnet.com/articles/35884-ffar-offers-6-million-for-in-ovo-sexing-solution>. “Chicken embryo tests can prevent practice of gassing billions of cockerels”, accessed November 9, 2018.

¹³² “WATCH.”

www.cok.net, “Cal-Cruz Hatcheries Animal Abuse Investigation.”

“By 2020, Male Chicks May Avoid Death By Grinder,” accessed September 19, 2018,

<https://www.nationalgeographic.com/people-and-culture/food/the-plate/2016/06/by-2020--male-chicks-could-avoid-death-by-grinder/>.

¹³³ “The Short, Brutal Life of Male Chickens.”



Farmers Weekly¹³⁴

“Now researchers at the biotech start-up company In Ovo, based in Leiden in the Netherlands, have identified several chemical biomarkers present in the eggs that they say can be used to distinguish between males and females on day nine of incubation [...]. In Ovo has the backing of all four of the large Dutch hatcheries and is currently working with Danish machine manufacturer Sanovo Technology Group to optimise their process. They plan to launch a commercial device in 2018.”

The Guardian¹³⁵

Overall assessment

We believe it is likely that THL moved United Egg Producers’ commitment forward by some time, as they were likely the only organisation working on the commitment at the time. In turn, the commitment likely provided some incentive to adopt the policy and might have played a role in bringing about in the prize offered by the Foundation for Food and Agriculture Research. However, we believe it is unlikely THL shifted the policy forward by a large amount of time, mainly because producers have independent incentives to adopt the policy and the commitment is vaguely worded. We judge there to be strong evidence in support of the considerations outlined above, as they rely on a public joint release, several online articles and the account of a referee. Overall, our rough conservative estimate is that THL played a role necessary to moving the policy forward by half a year.

3.3.3. Chick-fil-A, cage-free policy (US)

The second case study we consider focuses on Chick-fil-A’s commitment to abandon battery cage systems.

¹³⁴ “Embryo Sexing Could ‘End Male Chick Culling Debate.’”

¹³⁵ “Chicken embryo tests can prevent practice of gassing billions of cockerels”, accessed November 9, 2018.

<https://www.theguardian.com/environment/2016/may/27/chicken-embryo-tests-can-prevent-practice-of-gassing-billions-of-cockerels>.



What role did THL play?

In this section we provide reasons in favour of thinking THL brought forward Chick-fil-A's shift from battery cages to aviaries. There are no considerations against THL playing a central role in the policy shift that are specific to this case study.

The policy change

Chick-fil-A is one of the major fast food chains in the US, with over 2,000 stores.¹³⁶ In 2016, Chick-fil-A committed to shift to 100% cage-free eggs by 2026.¹³⁷

Considerations in favour of THL playing a central role

Prior to that, THL had been in email correspondence with the company, updating them on policies endorsed by their competitors and other major food companies, and mentioning their interest in initiating a campaign targeting Chick-fil-A. The company announced their commitment the week after Kroger, one of the major grocers in the country, made a public commitment and the day after receiving an update on this from THL.¹³⁸ Kroger's commitment came after THL ran a campaign against the company, including a petition that was signed by 30,000 supporters and a billboard outside their corporate headquarters.¹³⁹ This suggests it is plausible that Chick-fil-A shifted their policy on the basis that THL intended to run a campaign, and they believed the campaign would be detrimental to their company. We were unable to contact impartial sources on this matter, but THL told us that, to their knowledge, no other animal advocacy organisations were in dialogue with Chick-fil-A at the time when

¹³⁶ "Chick-Fil-A Is On Track to Be the Third Largest Restaurant Chain by 2020," Foodable Network, accessed October 4, 2018, <https://www.foodabletv.com/blog/2018/4/3/chick-fil-a-is-on-track-to-be-the-third-largest-restaurant-chain-by-2020>.

¹³⁷ Mar 9 and 2016, "Chick-Fil-A to Source 100 Percent Cage-Free Eggs," Chick-fil-A, accessed October 4, 2018, <https://thechickenwire.chick-fil-a.com/News/Chick-fil-A-to-Source-100-Percent-Cage-Free-Eggs>.

¹³⁸ "Mercy For Animals Commends Kroger For New 100% Cage-Free Egg Policy," accessed October 4, 2018, <https://www.prnewswire.com/news-releases/mercy-for-animals-commends-kroger-for-new-100-cage-free-egg-policy-300230023.html>.

Mar 9 and 2016, "Chick-Fil-A to Source 100 Percent Cage-Free Eggs."

¹³⁹ Christopher Durham, "Kroger Commits to Cage-Free Eggs by 2025," *My Private Brand* (blog), March 6, 2016, <http://myprivatebrand.com/2016/03/06/kroger-commits-to-cage-free-eggs-by-2025/>.

Tell Kroger to Stop Caging Hens", accessed October 4 2018, <https://www.change.org/p/kroger-tell-kroger-to-stop-caging-hens>.



they decided to make the commitment.¹⁴⁰ Desk research also did not point to evidence of other organisations working on this campaign.

What is the evidence in support of this account?

In this section we outline the main evidence in support of the account provided above.

Evidence of the policy change

- Online press reporting Chick-fil-A's commitment:

"Chick-fil-A, Inc. plans to serve 100% cage-free eggs at its nearly 2,000 restaurants nationwide by the end of 2026."

Food Business¹⁴¹

"Chick-fil-A, Inc. announced today the company's plan to source 100 percent cage-free eggs over the next 10 years, with the eggs to be served in all restaurants nationwide by year-end 2026."

The Chicken Wire¹⁴²

Evidence in favour of THL playing a central role

- Part of the e-mail correspondence between THL and Chick-fil-A (confidential).
- The online petition and an online article mentioning THL's campaign against Kroger (Fig 8.)

"This past week Kroger announced its commitment to sell only cage-free eggs by 2025. The move followed a campaign by animal cruelty activists, including a billboard posted in sight of the retailer's Cincinnati headquarters [...] Organizers of the campaign applauded the move, after a Twitter campaign that posted photos of the billboard outside Kroger corporate headquarters which said: "Kroger please help." The billboard showed a photo of a caged hen and a URL for a website about the Humane League's campaign, including a video of caged hens."

¹⁴⁰ Email conversation with Michelle Kucerak, 27th Sept 2018.

¹⁴¹ "Chick-Fil-A to Change to Cage-Free | Food Business News | March 10, 2016 11:48," accessed October 14, 2018, <https://www.foodbusinessnews.net/articles/7570-chick-fil-a-to-change-to-cage-free>.

¹⁴² Mar 9 and 2016, "Chick-Fil-A to Source 100 Percent Cage-Free Eggs."



- The timeline of the commitments: Kroger’s commitment was reported on the 6th of March 2016 and Chick-fil-A’s commitment on the 9th of the same month.

Figure 8.

The Humane League’s online petition against Kroger



Tell Kroger to Stop Caging Hens

This petition made change with 30,179 supporters!



The Humane League started this petition to Kroger and 9 others

Source: “Tell Kroger to Stop Caging Hens”, <https://www.change.org/p/kroger-tell-kroger-to-stop-caging-hens>

Overall assessment

We believe there are reasonably strong reasons to think THL brought forward Chick-fil-A’s cage-free policy: in particular, the timeline suggests Chick-fil-A’s commitment was influenced by THL emails and the success of THL’s campaign against Kroger. We judge there to be medium-strength evidence in support of these considerations: though the evidence of THL’s engagement with Chick-fil-A and the

¹⁴³ Christopher Durham, “Kroger Commits to Cage-Free Eggs by 2025,” *My Private Brand* (blog), March 6, 2016, <http://mypbrand.com/2016/03/06/kroger-commits-to-cage-free-eggs-by-2025/>.



lack of engagement from other organisations exclusively relies on material shared by THL, we were able to find publicly available evidence of the role played by THL in the campaign against Kroger. Overall, we estimate THL brought the shift forward by 1 year.

3.3.4. Sodexo, cage-free policy (global)

The third case study we consider focuses on Sodexo’s global commitment to abandon battery cage systems.

What role did THL play?

In this section we provide reasons in favour and against thinking THL brought forward Sodexo’s shift from battery cages to aviaries.

The policy change

Sodexo is a French food service and facility management company. It is the world’s second-biggest catering services company after Compass Group.¹⁴⁴ In 2016, they committed to employ cage-free eggs in their entire global services by 2025.¹⁴⁵

Considerations in favour of THL playing a central role

In 2015, Sodexo USA had committed to sourcing cage-free eggs by 2020.¹⁴⁶ Their commitment came after THL ran a campaign against the company, including setting up a petition that was signed by 130,000 supporters, as well as a campaign across US campuses.¹⁴⁷ Right before the global commitment, THL had been in email correspondence with Sodexo USA, mentioning THL’s focus on cage-free global commitments and listing global commitments already made by other food companies. This led to a meeting with the Sodexo USA team and then an introduction to Sodexo’s

¹⁴⁴ “Sodexo Shares Sink after Warning on Sales and Profits,” *Reuters*, March 29, 2018, <https://uk.reuters.com/article/uk-sodexo-outlook/sodexo-shares-sink-after-warning-on-sales-and-profits-idUKKBN1H50IS>.

¹⁴⁵ “Sodexo: First Company in Its Sector to Make Worldwide Commitment to Cage Free Eggs,” *Countries.com Global Content*, accessed October 4, 2018, <https://www.sodexo.com/cms/render/live/en/sites/sdxcom-wwd/home/media/press-releases/newsListArea/press-releases/commitment-cage-free-eggs@/commitment-cage-free-eggs.html>.

¹⁴⁶ “Sodexo Expands Ongoing Commitment to More Humane Supply Chain through Its Comprehensive Animal Welfare Policy,” accessed October 4, 2018, <https://www.prnewswire.com/news-releases/sodexo-expands-ongoing-commitment-to-more-humane-supply-chain-through-its-comprehensive-animal-welfare-policy-300038262.html>.

¹⁴⁷ “Sodexo Faces National Attention over Animal Cruelty,” *The Commuter* (blog), February 27, 2015, <http://ncccommuter.org/sodexo-faces-international-attention-over-animal-cruelty/>.



global HQ. THL’s Director of Campaigns met with Sodexo’s representatives. Following the meeting, representatives from THL, the Open Wing Alliance and Sodexo Global discussed Sodexo’s commitments and agreed on a joint statement. The above suggests it is plausible that THL’s campaign against Sodexo US affected Sodexo Global’s decision to make a commitment to a cage-free policy.

Considerations against THL playing a central role

Sodexo has a long-term relationship with other animal advocacy groups, and the public statement about its global commitment states the company will take advice from Compassion in World Farming and Humane Society International, as well as THL.

What is the evidence in support of this account?

In this section we outline the main evidence in support of the account provided above.

Evidence of the policy change

- Sodexo’s announcing the commitment on their website:

‘Sodexo, world leader in Quality of Life services, announced today it will source only cage free eggs (both shell and liquid) worldwide by 2025.’

Sodexo website¹⁴⁸

Evidence in favour of THL playing a central role

- Part of the e-mail correspondence between THL and Sodexo (confidential).
- THL being mentioned as one of the organisations behind the shift by online press covering the commitment:

“It came after talks with animal rights groups, as well as an international animal rights coalition recently formed by The Humane League, a small American farm animal rights organization that has driven several U.S. companies’ pledges to swear off eggs from caged hens.”

¹⁴⁸ “Sodexo.”



Boston Global¹⁴⁹

- THL being mentioned in Sodexo’s public statement of the commitment, together with Compassion in World Farming and Humane Society International:

“Sodexo will take advice at the international level from specialized NGO partners Compassion in World Farming, Humane Society International, and The Humane League to define and implement an action plan to ensure the company and its suppliers can achieve this goal within the next nine years.”

Sodexo website¹⁵⁰

- An online article mentioning THL’s university campaign and online petition targeting Sodexo USA in 2015:

“Students across the U.S. initiated the “Kick Sodexo off Campus” campaign, which was backed by The Humane League of the United States because of Sodexo’s use of “cruel and unsustainable battery cage liquid eggs” in campus dining halls. [...] A Change.org petition started by The Humane League to stop Sodexo’s use of liquid eggs from battery cage hens garnered 130,714 signatures.”

The Commuter¹⁵¹

Evidence against THL playing a central role

- Compassion in World Farming and Humane Society International being mentioned in Sodexo’s public statement of the commitment:

“Sodexo will take advice at the international level from specialized NGO partners Compassion in World Farming, Humane Society International, and The Humane League to define and implement an action plan to ensure the company and its suppliers can achieve this goal within the next nine years.”

¹⁴⁹ “Movement to Free Hens from Cages May Be Going Global - The Boston Globe,” accessed October 4, 2018, <https://www.bostonglobe.com/business/2016/07/25/movement-free-hens-from-cages-may-going-global/vfo81tJrs1oYlztAzqdpVL/story.html>.

¹⁵⁰ “Sodexo.”

¹⁵¹ “Sodexo Faces National Attention over Animal Cruelty,” February 27, 2015.



Overall assessment

We believe there are reasonably strong reasons to think THL brought forward Sodexo’s cage-free policy: first, it seems plausible that the success of THL’s campaign against Sodexo US made the threat of a campaign a pressing concern for Sodexo Global; secondly, the timeline suggests Sodexo Global’s commitment was influenced by their email correspondence and in-person meetings with THL; third, Sodexo Global mentions THL in its public statement about the commitments. The main reason to doubt THL brought the policy forward is that other organisations were mentioned in the company’s press release. We judge there to be strong evidence in support of this account, including several online articles, and Sodexo’s public statement. Overall, our rough conservative estimate is that THL moved the policy forward by 1 year.

3.3.5. Sodexo, broiler policy (US)

The fourth case study we consider focuses on Sodexo’s global commitment to shift to improved broiler practices.

What role did THL play?

In this section we provide reasons in favour and against thinking THL played a central role in bringing forward Sodexo’s shift.

The policy change

In 2016 Sodexo USA made a commitment to adopt improved broiler chicken systems by 2024.¹⁵³

Considerations in favour of THL playing a central role

THL presented the case in favour of improvements for broiler chickens to Sodexo USA in 2016, at the same time as they reached out to discuss a global cage-free policy with Sodexo HQ. The improvements discussed concerned increased quantity and quality of space, selection of breeds that account for welfare constraints, and improved slaughtering practices – as discussed in section 2

¹⁵² “Sodexo.”

¹⁵³ “Sodexo Reinforces an Already Robust Commitment to Animal Welfare by Working with U.S. Suppliers to Improve Conditions of Broiler Chickens.”



above. They met with Sodexo executives at their global headquarters in Paris, and then weeks later at their US headquarters.

Considerations against THL playing a central role

Sodexo released a joint statement with The Humane Society of the United States. This suggests The Humane Society likely played an important role in the adoption of the policy. As we discuss above, we interpret other organisations' work on the campaign as at best weak consideration against THL being necessary to bring the policy forward in time.

What is the evidence in support of this account?

In this section we outline the main evidence in support of the account provided above.

Evidence of the policy change

- Public relation company Cision reporting Sodexo's commitment:

"In a joint announcement today with the Humane Society of the United States (HSUS), Sodexo, world leader in Quality of Life services, committed to working with U.S. suppliers to further improve the treatment of broiler chickens in its supply chain by 2024."

Cision¹⁵⁴

Evidence in favour of THL playing a central role

- Part of the e-mail correspondence between THL and Sodexo (confidential).
- An online article describing the victory as part of THL's '88%' campaign (their campaign on broiler welfare).

"Sodexo's ground-breaking policies are a part of The Humane League's 88 Percent Campaign, a series of campaigns addressing the most extreme cruelties in factory farming for chickens raised for meat, which represent 88.7 percent of all farmed land animals in the United States."

¹⁵⁴ "Sodexo Reinforces an Already Robust Commitment to Animal Welfare by Working with U.S. Suppliers to Improve Conditions of Broiler Chickens."



Cape Gazette¹⁵⁵

- The testimony of Lewis Bollard, Programme Officer for Animal Welfare at OpenPhil, who related that, in his opinion, THL played a crucial role in the campaign.¹⁵⁶

Evidence against THL playing a central role

- A joint press release from Sodexo USA and The Humane Society of the United States on Sodexo’s commitment:

“In a joint announcement today with the Humane Society of the United States (HSUS), Sodexo, world leader in Quality of Life services, committed to working with U.S. suppliers to further improve the treatment of broiler chickens in its supply chain by 2024.”

Cision¹⁵⁷

Overall assessment

There are two main reasons to think THL shifted forward Sodexo’s broiler policy: first, it seems plausible that the success of THL’s cage-free campaign against Sodexo US made the threat of a campaign on broiler welfare a pressing concern for the company; secondly, the timeline suggests Sodexo US commitment was influenced by their email correspondence and in-person meetings with THL. The main reason to doubt that THL played a central role is that THL was not mentioned in the company’s press release, while the statement was made jointly with another organisation. We judge there to be strong evidence in support of this account, including a referee’s account, several online articles, and Sodexo’s public statement. Overall, we estimate THL’s work moved the policy forward by 1 year.

3.3.6. Subway, broiler policy (US)

The fifth case study we consider focuses on Subway’s commitment to shift to improved broiler practices.

¹⁵⁵ “Food Service Company Agrees to Adopt New Policies Regulating Chicken Suppliers | Cape Gazette,” accessed October 4, 2018, <https://www.capegazette.com/article/food-service-company-agrees-adopt-new-policies-regulating-chicken-suppliers/122501>.

¹⁵⁶ Conversation with Lewis Bollard, 4th October 2018.

¹⁵⁷ “Sodexo Reinforces an Already Robust Commitment to Animal Welfare by Working with U.S. Suppliers to Improve Conditions of Broiler Chickens.”



What role did THL play?

In this section we provide reasons in favour and against thinking THL played a central role in bringing forward Subway's shift.

The policy change

In 2017, Subway committed to adopt improved broiler policies by 2024.

Considerations in favour of THL playing a central role

Prior to that, THL had run a campaign targeting the organisation, which included: an online petition that was signed by 50,000 supporters, a Twitter/Instagram storm, the creation of a campaign website, leafleting outside Subways restaurants, targeting university restaurants, targeting potential franchises, as well as a protest outside Subway's headquarters. In 2017, while THL's campaign was running, Subway released a statement to stores considering becoming Subway franchises that had been approached by THL. In this statement, they referred to a plan to make changes to their broiler policy on a ten-year timeline and stated that other organisations they worked with had responded positively to this plan, even though THL was not satisfied with the timeline. Subway ultimately agreed to a 2024 timeline later in the year.

Considerations against THL playing a central role

Subway's statement to stores becoming Subway franchises mentioned they had been working with other organisations, aside from THL. As we discuss above, we take this organisation's work on the campaign as a weak consideration against THL being necessary to bring the policy forward in time.

What is the evidence in support of this account?

In this section we outline evidence in favour and against the thesis that THL played a central role in bringing forward Subway's policy shift.

Evidence of the policy change

- Subway's website detailing the commitment to shift to improved broiler policies by 2024, and a blog post by Compassion in Food Business announcing the commitment, dated to April 2017:



“By 2024 or sooner, starting in the US and Canada, 100% of our chicken products will be produced in alignment with GAP standards for breed with improved welfare, living environments (including lighting, litter and enrichment), activity levels and optimized stocking density based on scientific research and processed using controlled or low atmospheric stunning.”

Subway website¹⁵⁸

“Subway has committed to implement the following changes by 2024:
Source only chicken breeds that are approved by Global Animal Partnership (GAP) as having higher welfare outcomes;
Source only chickens that are given more space, per GAP’s standards;
Ensure all chickens sourced have an improved environment, including litter, lighting and enrichment, per GAP’s standards; and
Source only chickens that are more humanely processed, through a multi-step, controlled-atmosphere system.”

Compassion in Food Business¹⁵⁹

Evidence in favour of THL playing a central role

- The page for an online petition (Figure 9), a list of Tweets (#SubwaySecrets) started by Kelly Myers (THL staff member), including pictures showing people leafleting outside Subway restaurants and the company headquarters, and a Facebook post referring to a website called ‘Secrets at Subway’.¹⁶⁰

¹⁵⁸ “Sustainable Sourcing | SUBWAY.Com - United States (English).”

¹⁵⁹ ‘Subway joins higher welfare chicken move’. Compassion in Food Business, <https://www.compassioninfoodbusiness.com/our-news/2017/04/subway-joins-higher-welfare-chicken-move>.

¹⁶⁰ “#SubwaySecrets”, Twitter, <https://twitter.com/hashtag/SubwaySecrets?src=hash> Subway: Stop supporting cruelty to chicken!” <https://www.change.org/p/subway-stop-supporting-cruelty-to-chickens?platform=hootsuite>.

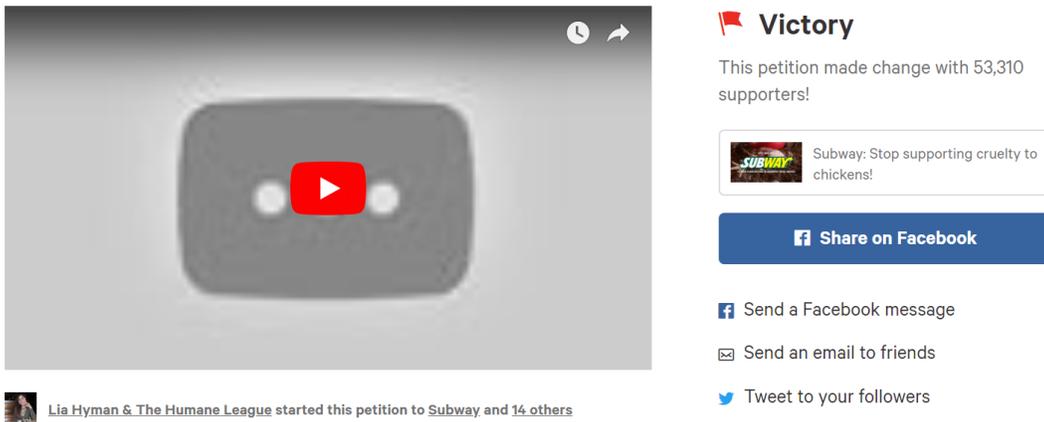
Link to ‘Secrets at Subway’, Facebook, <https://www.facebook.com/subway/posts/httpsecretsatsubwaycom/1673859879588503/>.



Figure 9.

The Humane League’s online petition against Subway

Subway: Stop supporting cruelty to chickens!



Source: “Subway: Stop supporting cruelty to chicken!” <https://www.change.org/p/subway-stop-supporting-cruelty-to-chickens?platform=hootsuite>

- A presentation prepared by Subway for stores considering joining the franchise, stating that other organisations support Subway’s intention to make the transition within a ten-year timeline. In 2017, Subway committed to complete the transition by 2024. We take this to be evidence of the fact that, without THL’s involvement, Subway would have committed to implement the policy three years later than it did.

“Some of our current initiatives include: evaluating alternative breeds of slower growing birds with the objective of further improving the birds’ welfare; ensuring over the next 10 years that 100% of our chicken is produced in alignment with strict Global Animal Partnership (GAP) standards [...] We have been in contact with the Humane League to provide them with our policies as well as the initiatives we are taking regarding slower growth rates, harvesting, improved housing and third-party auditing. We believe that our policies and initiatives are in line with what the Humane League is trying to accomplish. Other organizations have responded



positively to our initiatives. We are working with them to further improve our policies going forward.”

Subway¹⁶¹

- Online articles about THL’s campaign.¹⁶²

Evidence against THL playing a central role

- The presentation cited above, which mentions that, “Other organizations have responded positively to our initiatives. We are working with them to further improve our policies going forward.”¹⁶³

Overall assessment

There are two main reasons why we believe THL moved the policy forward: first, THL ran an aggressive campaign against Subway; secondly, the statement prepared by Subway for stores interested in joining as a franchise suggests that, just before Subway committed to adopt improved policies by 2024, other organisations would have accepted a longer timeline for the policy shift, while THL was still campaigning for the 2024 timeline. The main reason to doubt THL played a central role is that other organisations were involved in the campaigns. We judge there to be strong evidence in support of THL’s role, including publicly available evidence of THL’s campaign targeting Subway and the statement prepared by Subway for stores interested in joining as a franchise. Overall, we estimate THL moved the policy forward by 1.5 years.

¹⁶¹ Statement by Subway, https://drive.google.com/file/d/1BrnjJdaktBCYSd9m-dSmt_OOrxKCAB48/view.

¹⁶² “Cheltenham Student Prods Subway to New Chicken Welfare Policy | PhillyVoice,” accessed September 19, 2018, <https://www.phillyvoice.com/cheltenham-student-prods-subway-to-new-chicken-welfare-policy/>.

Micah Bailey, “Subway Commits to Chicken Welfare Policy,” WTNH, April 29, 2017, <https://www.wtnh.com/news/subway-commits-to-chicken-welfare-policy/1068387886>.

¹⁶³ Statement by Subway, https://drive.google.com/file/d/1BrnjJdaktBCYSd9m-dSmt_OOrxKCAB48/view.



3.3.7. Chipotle, broiler policy (US)

What role did THL play?

In this section we provide reasons in favour and against thinking THL played a central role in bringing forward Chipotle’s shift.

The policy change

In 2017, Chipotle committed to endorse improved broiler welfare standards by 2024.

Considerations in favour of THL playing a central role

THL staff met with Chipotle executives just days before they produced their broiler policy and had been in contact through email and phone calls before then.

Considerations against THL playing a central role

Chipotle mentions in its policy that it plans to work with Compassion in World Farming and The Humane Society to implement the policy and press cites these two organisations as responsible for the change. This suggests those two organisations likely played an important role in the adoption of the policy.

What is the evidence in support of this account?

Evidence of the policy change

- Chipotle’s chicken welfare policy published on their website:

“Using standards aligned with the new requirements of the Global Animal Partnership’s standard for broiler chickens we will work to achieve the following goals:

Improved breeding. Transition to strains of birds bred for measurably improved welfare outcomes.

Providing more space. Provide animals with more space by reducing maximum stocking density to 6 lbs per square foot.



Living conditions. Provide chickens with housing that includes improved lighting, litter and floor enrichments that allow chickens to express natural behaviors.

Slaughter. Process chickens in a manner that utilizes a multi-step controlled-atmosphere processing system.

Our suppliers will be required to demonstrate compliance with these standards via audits by Chipotle’s internal Animal Welfare team as well as third party auditors.

[...]

We are working to achieve these ambitious objectives by 2024, but we always aim to reach our goals as soon as possible.”

Chipotle’s chicken welfare policy¹⁶⁴

Evidence in favour of THL playing a central role

- Part of the e-mail correspondence between THL and Chipotle (confidential).

Evidence against THL playing a central role

- Chipotle’s chicken welfare policy mentioning Compassion in World Farming and The Humane Society, but not THL.

“In addition, we will work with animal scientists and other animal welfare experts, including from organizations such as Compassion in World Farming and the Humane Society of the United States”

Chipotle’s chicken welfare policy¹⁶⁵

- Compassion for World Farming’s account mentions The Humane Society’s work, but not the work of other organisations.

¹⁶⁴ “Chipotle — Animal Welfare: Broiler Commitment.”

¹⁶⁵ “Chipotle — Animal Welfare: Broiler Commitment.”



“Together with Compassion in World Farming USA and The Humane Society of the United States, Chipotle has been working to address growing concerns about how chickens are raised and processed”

Compassion in World Farming announcement¹⁶⁶

- An article on Chipotle’s commitment mentioning Compassion for World Farming and The Humane Society’s input, but not THL’s.

“Chipotle worked with Compassion in World Farming USA and the Humane Society of the U.S. to develop the new standards”

Triple Pundit¹⁶⁷

Overall assessment

The main reason we believe THL moved the policy forward is that the timeline suggests Chipotle’s commitment was influenced by their email correspondence and in-person meetings with THL. The main reason to doubt that THL played a central role is that THL is not mentioned on the company’s website, whereas other organisations are. The evidence in support of THL playing an important role is weak, since it only relies on email correspondence shared by THL. Overall, we estimate THL moved the policy forward by 0.5 years.

3.4. Is the intervention cost-effective?

In this section we discuss whether the intervention carried out by THL is cost-effective.

3.4.1. Benefits

Our estimate of the benefits brought about by THL’s work depends on two factors: first, the size of the benefits deriving from policy change and, secondly, the extent to which THL sped up these policy changes. In turn, the first point depends on the number of animals affected, the size of the benefit and the probability the benefit will materialise. We discuss these issues in turn below.

¹⁶⁶ “Chipotle Announces Latest Evolution in Animal Welfare Practices Restaurant | Compassion USA,” accessed October 5, 2018, <https://www.ciwf.com/news/2017/01/chipotle-comes-through-for-chickens>.

¹⁶⁷ “Chipotle Rolls Out New Animal Welfare Standards for Chickens,” accessed October 5, 2018, <https://www.triplepundit.com/2017/01/chipotle-new-animal-welfare-standard-chickens/>.



Note that the estimates we arrived at are based on highly subjective judgments and donors are invited to input their own judgment to see how this would affect the estimate.

How many animals did the campaigns affect?

In order to estimate the overall number of animals affected by THL’s work, we would need to estimate the number of animals affected by all campaigns they contributed to. However, THL report that between 2016 and 2018 alone they contributed to the success of over 250 campaigns, including roughly 200 cage-free campaigns and 50 broiler campaigns. This makes assessing every campaign they have contributed to infeasible. We therefore used 37 campaigns that THL participated in as case studies.¹⁶⁸

By how much did THL speed up the policy changes?

To estimate the extent to which THL brought forward policies it worked on, we employ the information collected in the six case studies detailed above. We develop three estimates: one for work on chick culling, one for work on cage-free and one for work on broiler welfare. Each estimate consists of the average likelihood that THL’s work brought the policy forward by a certain period of time.

3.4.2. Costs

To estimate costs, we include THL’s cumulative budget between 2015 and 2018. There are two reasons why we use the overall budget, rather than only spending on corporate campaigns: first, THL was unable to provide a split of expenses across different activities; secondly, (as we discuss above) current evidence does not provide support to work on education and outreach efforts, and therefore it is plausible THL’s corporate campaigns account for the whole of the organisation’s impact.

¹⁶⁸ As companies rarely report the numbers of birds affected by their policies, we often use information from similar companies outside of our case studies to model our estimations on. For instance, the Carnival Group is a cruise company that committed to source chickens farmed with improved welfare practices. We were unable to find a direct estimate of the number of birds affected. We therefore estimated the value as follows: (a) we found chicken consumption per person per cruise trip from two other cruise companies (b) we calculated average chicken consumption per person per cruise trip (c) we multiplied this number by the number of annual passengers on Carnival Group ships (d) we divided the result by average market weight of chickens in the US. The resulting estimate will not provide a precise number of birds affected by the policy shift, but it offers a rough indication. Calculations for the estimate of birds affected can be found here. Numbers of birds affected by cage-free policies in the US are estimates by the Open Philanthropy Project, and published at “The Humane League — Corporate Cage-Free Campaigns,” Open Philanthropy Project, January 12, 2016, <https://www.openphilanthropy.org/focus/us-policy/farm-animal-welfare/humane-league-corporate-cage-free-campaigns>.



3.4.3. Overall result

Overall, we estimate that THL has achieved an outcome roughly as good as 10 hen-years shift from battery cages to aviaries per dollar received. The model can be found [here](#). Note that this result should not be interpreted overly literally, because of the various sources of uncertainty about this estimate, which we flag at different points in section 3.2 and 3.3.

Note that the model only calculates the mean expected effect of THL's work on corporate campaigns. It is important to note that given the uncertainty surrounding the welfare effects of aviaries and of broiler breed reforms, we think there is a very low yet non-negligible risk that the changes advocated by THL's corporate campaigns could cause harm. Our subjective estimate is that the probability of this is between 5 and 10%. We report THL's response to these concerns in [Appendix 3](#) below. We reiterate that our overall estimate is that THL has large positive effects, however donors should be aware of the risk. Donors adverse to this risk may consider delaying donations until we have carried out a more comprehensive investigation of the animal welfare space.

Moreover, it should be flagged that corporate campaigns are usually the result of the concerted work of more than one advocacy organisation, which means we would not expect funding THL to have brought about the change by itself. We do, however, estimate that funding to THL was necessary to bring the benefits about.

3.5. Is it a strong organisation?

Our research suggests that THL is a well-managed organisation that has been able to attract and retain talented staff.¹⁶⁹ They have experimented with different strategies and gathered evidence on what worked best through trial and error.¹⁷⁰ They have clear goals for expansion (more on this in the next section) and have invested in long-term capacity building in the sector, through their work on the Open Wing Alliance and training animal advocates in college campuses. They have grown rapidly in the last few years, moving from a budget of less than \$1 million in 2015 to an estimated budget of \$7.4 million in 2018. They think about their expansion strategically, attempting to identify bottlenecks that

¹⁶⁹ Conversation with Lewis Bollard, 4th October 2018.

¹⁷⁰ Conversation with Lewis Bollard, 4th October 2018.



prevent them from targeting the highest value campaigns – at the moment, they consider growing their communications department to be the priority in this respect.¹⁷¹

3.6. Is there room for funding?

THL would like to scale the model of corporate campaign they have tested on cage-free policies in the US. The expansion would include a wider set of topics (such as broiler welfare and chick culling), international companies (especially through the Open Wing Alliance), and ‘bigger’ players in the sector (such as McDonald’s for broiler policy in the US).

THL has not completed the 2019 budget process, but they estimate their 2019 budget will be roughly \$8.9 million. This constitutes a \$1.5 million increase from their estimated 2018 budget. They have currently secured only half of their estimated 2019 budget.

THL’s expansion plans include:

1. Hiring additional staff to support international work in the UK and Mexico, and through the Open Wing Alliance. Their work on the Open Wing Alliance mainly focuses on expansion (increasing the demand for grants and training) and improving the provision of training, especially by organising regional summits. They would like to set up regional training sessions in Latin America, and potentially other regions, depending on demand. Their work in the UK will mainly focus on broiler welfare through the ‘1 in a Billion’ campaign (one billion is the number of broilers raised in the UK). In Mexico, they plan to work on cage-free campaigns. Here, progress has been slow, and work is still at the initial stages. They plan to expand their national volunteer program, social media and email presence.¹⁷²
2. Hiring additional program/campaign staff in the US. In the US, the priority for 2019 will be ‘88%’, the current campaign on broiler welfare. They are currently focusing on a campaign targeting McDonald’s, which could continue through 2019. The other major commitment in the US is the tracking of progress towards commitments made on cage-free policies. They plan to

¹⁷¹ Conversation with Michelle Kucerak, 4th October 2018.

¹⁷² Conversation with Michelle Kucerak, 4th October 2018.



engage companies in yearly conversations, to check whether they are on track and incentivise them to honour their commitments.

3. Strengthening infrastructure by expanding their support staff. In order to set up campaigns targeting larger companies, THL plans to invest in its infrastructure, identifying and addressing possible bottlenecks. They plan to expand their communications department, including their design, IT, web and media outreach team.
4. Raising salaries and benefits for all staff to be in line with industry standards. THL has recently hired an external consultant to examine their compensation policy. The study has highlighted that their current salaries are below standards for both the wider NGO sector and the narrower animal advocacy sector. The study has recommended salary brackets that they would like to implement. They deem this to be essential to ensure they are able to retain talent in the long term.



Appendix 1: Our process

Our usual process consists of reviewing the evidence on different types of interventions, and conducting a comprehensive search of organisations working in the space, to identify the most cost-effective donation opportunity. For this report, however, we focused on the intervention we had prior reason to believe to be promising and the charities we had reason to think were most effectively implementing this intervention, and tested the extent to which the initial judgments stood to scrutiny.

We used this method for two reasons. Firstly, animal welfare is a highly promising cause area, due to animal farming causing large amounts of suffering and being highly neglected by philanthropists. Moreover, many donors have expressed a desire for recommendations in this area, and we deemed it a priority to address this without too much delay, especially since we were not able to identify any publicly available research sufficiently aligned to our own research methodology that we would be happy to defer to. Thus, in order to ensure their resources could be directed towards cost-effective opportunities, we decided to work with a shorter timeline for now. However, conducting a more complete investigation remains a likely priority for the future.

When selecting interventions, we focused on corporate campaigns because these were the type of intervention for which evidence was more readily available and that had been indicated to be effective. We do believe other interventions that are more complicated to assess – such as meat substitute research – are worthy of investigation, and this remains a likely priority for the future.

We considered two charities working on corporate campaigns: The Humane League and Animal Equality. We selected these on the basis of conversations with Lewis Bollard, OpenPhil’s publicly available research on corporate campaigns, the charities’ own corporate success claims reported by Animal Charity Evaluators (ACE), and ACE’s recommendations of the two charities. While we chose not to rely on ACE’s recommendations, because their methodology differs from ours, we deemed their assessments to be useful indicators of promising charities that we could investigate using our own methodology.

We were in touch with Animal Equality, but were unable to complete the investigation, because the organisation could not share the required materials within the timeline we had set for this report.



We plan to provide a more in-depth and comprehensive assessment of the best donation opportunities in animal welfare in the future.



Appendix 2: Open Questions and Future Research

Our current investigation suggests that the policy shifts championed by corporate campaigns are likely to result in significant welfare improvement for animals, and that THL is a promising donation opportunity in this area. However, our review also pointed to some sources of uncertainty, and areas for further research. In particular:

- **Broiler breeds:** as we mention above, breeds that improve animal welfare might also lead to more birds being raised and higher environmental costs. How likely are these risks to materialise and how large would the costs be?
- **Corporate campaigns track record:** some organisations working on animal welfare are concerned that voluntary standards such as the ones championed by corporate campaigns will not lead to meaningful change, but simply enable the food industry to improve its public image.¹⁷³ In the report above, we mention there are examples of companies breaking their pledges. To what extent, and in which circumstances, have companies kept similar commitments in the past?¹⁷⁴
- **Funding gaps for broiler campaigns:** when discussing OpenPhil’s funding of corporate campaigns supporting cage-free policies, Lewis Bollard considers the possibility that those campaigns received more funding than was necessary to achieve their results.¹⁷⁵ This raises the question of whether the same might be the case for broiler campaigns.¹⁷⁶
- **Metrics used to estimate cost-effectiveness:** to express benefits brought about by corporate campaigns in terms of single “unit”, we used a unit based on a ‘shift from battery cages to aviaries’. We also provide a single estimate, rather than a range. Given more time, we would

¹⁷³ “Initial Grants to Support Corporate Cage-Free Reforms | Open Philanthropy Project,” Comment made on March 31, 2016 at 4:02 pm. Accessed October 14, 2018, <https://www.openphilanthropy.org/blog/initial-grants-support-corporate-cage-free-reforms>.

¹⁷⁴ We are grateful to Harrison Nathan for raising this point during his review of a previous draft of this report.

¹⁷⁵ “Initial Grants to Support Corporate Cage-Free Reforms | Open Philanthropy Project,” Comment made on April 15, 2016 at 2:58 pm. Accessed October 14, 2018, <https://www.openphilanthropy.org/blog/initial-grants-support-corporate-cage-free-reforms>.

¹⁷⁶ We are grateful to Harrison Nathan for raising this point during his review of a previous draft of this report.



employ a different metric and provide estimates as a range. Using a different metric would allow us to measure the possibility that the shift from battery cages to aviaries has a negative welfare effect and providing a range estimate would highlight the level of uncertainty in our estimates.

- **Estimate of birds affected by THL’s work:** our estimates of the number of birds affected by THL’s campaigns relies on 37 case studies out of more than 250 campaigns. We can expect large variation among the number affected by the commitments, since the commitments come from different types of companies (e.g. restaurants, retailers, etc) and companies vary significantly in size. This means there is large uncertainty around our best-guess estimates. In future work, we would like to improve this estimate by using a larger and a more representative sample.
- **Estimate of THL’s role in commitments achieved by the Open Wing Alliance:** the list of campaigns we consider in the cost-effectiveness analysis includes campaigns run by the Open Wing Alliance. The coalition was set up and is supported by THL, which indicates it is plausible THL was necessary to bring a policy forwards in such cases. However, we have not investigated in detail to what extent THL was indeed instrumental.
- **Representativeness of THL’s work for future cost-effectiveness:** our estimate of THL’s cost-effectiveness focused on its work on three types of campaigns – cage-free, broilers and chick culling. However, our understanding is that future work in the US (where most of their activities focus) will concentrate on broiler campaigns. Because of this, it would be helpful to analyse more in depth the cost-effectiveness of their work on broiler campaigns. Our initial estimate of the cost-effectiveness of broiler campaigns assumed that all campaigns are equally expensive, which suggests that broiler campaigns would be marginally more cost-effective than THL’s average campaign so far, but we would like to explore this further.



Appendix 3: THL's Response to Concerns About Potential Negative Effects of Policies

The risk of cage-free policies being harmful to animals has been much debated, but to date, scientists have all been agreed upon the essential welfare value of certain species-specific behaviours. For laying hens those include nesting, foraging, perching high at night and dust-bathing. All of these behaviours are prohibited in battery cages, which also leave birds unable to spread their wings. This is compounded by the lack of general attention paid by producers to the caged birds as there are hundreds of thousands in a single shed. While it is possible that mortality may increase, this should be a transitional period and the welfare potential of these systems should be accounted for when considering over time the improvement in reducing suffering¹. It is also now known how pullet rearing impacts the behaviour and welfare of laying hens in later life and improvements are making progress in reducing issues and ensuring hens are ready for cage-free environments. Crucially, the maximum welfare within a cage system is extremely low, whereas cage-free systems have a much larger capacity to continuously improve and provide species-specific behaviours that birds are highly motivated to perform.

In regards to broiler chickens, there are significant studies that show the welfare of broilers is improved through reducing stocking density, improving light, changing breed and improving the slaughter procedures. Unlike cage-free, it is highly unlikely that mortality will increase, instead, it should decrease. The use of antibiotics is also highly likely to decrease and given that antibiotic use will only have to go down over the coming years in all systems, the improvement in the health of the birds will be important in ensuring they suffer less from sickness. The constant pain that birds experience due to their breed (nearly all birds have some form of gait issue by reaching the time of slaughter) and lack of room to sit down without compression leads us to be confident that the improvements required by the commitment will reduce suffering and it will also help in combating the industry's open desire to move to more birds in a shed while growing to full slaughter weight in just 4 weeks. These attempts by the industry to intensify further will only result in cheaper prices, more individuals slaughtered, and more suffering. Improving the standards as stated in the commitment can help halt this push to further intensification.

Vicky Bond, Managing Director, UK