

**CHICKEN 2035: Anticipating TRENDS, Adapting STRATEGIES**

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# Chicken production, processing and 'net zero'

Poultry sustainability: past, present, and future

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# Emission reduction targets and net zero commitments

- 4,205 companies and financial institutions have validated targets with SBTi\*
- As of 2023 there are 337 companies in the food, beverage, and agriculture sectors with science-based targets
- This is an increase of ~140% over 2022

# SBTi Forest Land and Agriculture (FLAG)

- SBTi & WWF developed SBTi FLAG methods and guidance for companies in food, agriculture, and forest sectors
- Purpose of SBTi FLAG is to set science-based targets that include land-related emissions and removals
- Under SBTi FLAG\*, a 2035 target for US poultry should have an intensity reduction of 50% relative to 2023

# Implications for the poultry industry

- Customers, shareholders, and consumers will continue creating pressure to set and achieve targets
- In order for the poultry industry to achieve the ambitious emission reductions mandated by these targets, we need to understand 3 things:
  1. What improvements have been historically
  2. Where the industry is today
  3. What else can be done to further sustainable poultry production

# US broiler production 1965 – 2010\*

\*Findings of Putman et al. 2017

- 36% decrease in GHG emissions per ton of live weight poultry produced
- Improvements driven by bird performance and background systems
- Mainly bird genetics and crop yields



1957



2005

*Image source: Zuidhof et al. 2014. Growth, efficiency, and yield of commercial broilers from 1957, 1978, and 2005*

# US broiler production 2010 – 2020\*

\*Findings of Thoma & Putman 2021

- National average broiler market weight above 6 lbs and FCR below 1.8
- Further decrease in GHG emissions of 18% per ton of live weight poultry produced
- The carbon footprint of poultry in 2020 was found to be 1.0 kg CO<sub>2</sub>e/kg LW

**How does this compare with other US agriculture production?**

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# Carbon Footprint of Animal Products by Relative



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# Sector Level Totals 2010 vs 2020

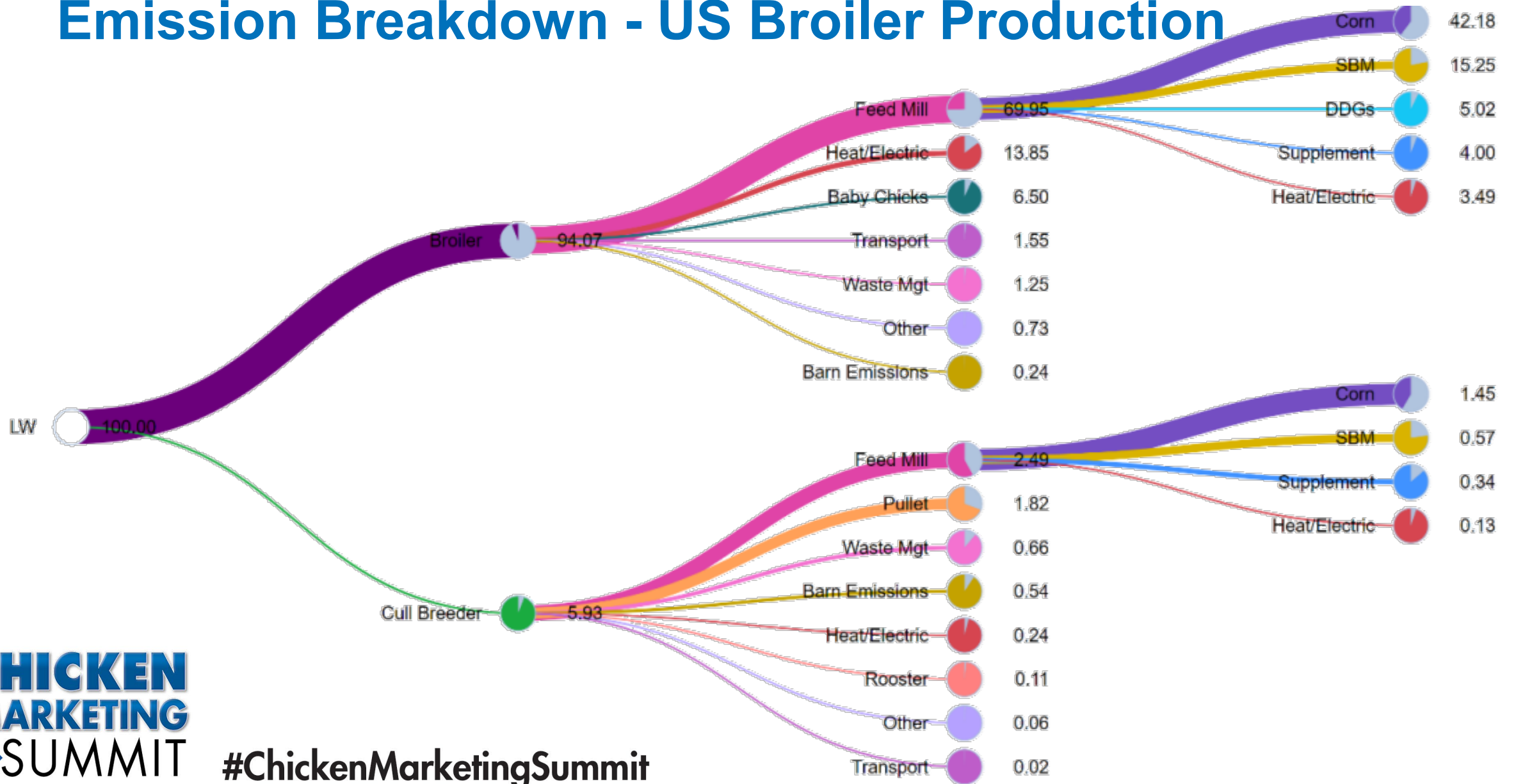
| Category           | Unit          | 2010       | 2020       | Difference |
|--------------------|---------------|------------|------------|------------|
| Poultry Production | t live weight | 22,182,385 | 26,734,745 | 17.0%      |
| Global Warming     | t CO2-eq      | 27,225,936 | 27,000,732 | -0.8       |
| Land Use           | m2a crop-eq   | 4,715,785  | 4,970,116  | 5.4%       |
| Water Consumption  | 1000 m3       | 6,401,559  | 6,748,790  | 5.4%       |

**How can the US poultry industry continue to offset GHG emissions from the growing demand for chicken?**

# The SBTi FLAG Target Pathway

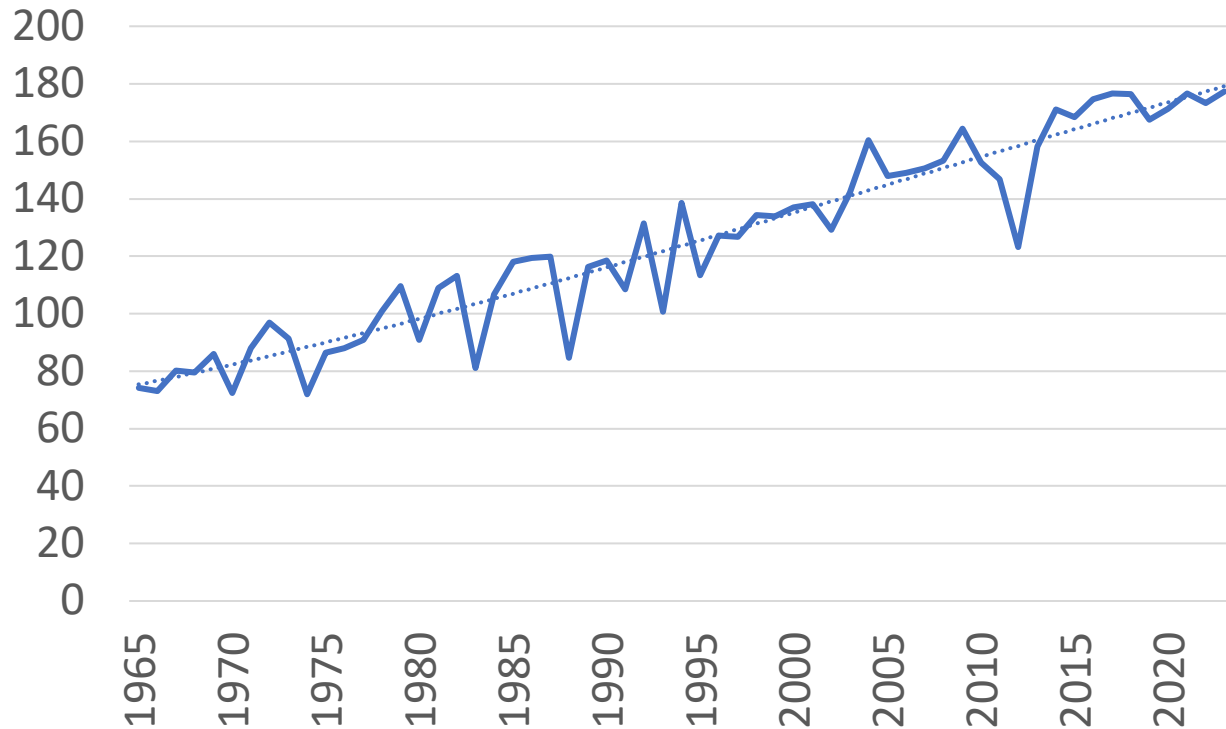
- The 2035 SBTi FLAG target for US poultry breaks out abatement into emission reductions and removals
- It suggests 30% from emission reductions and 20% removals
- Based on Roe et al. 2019 Contribution of the land sector to a 1.5 °C world

# Emission Breakdown - US Broiler Production

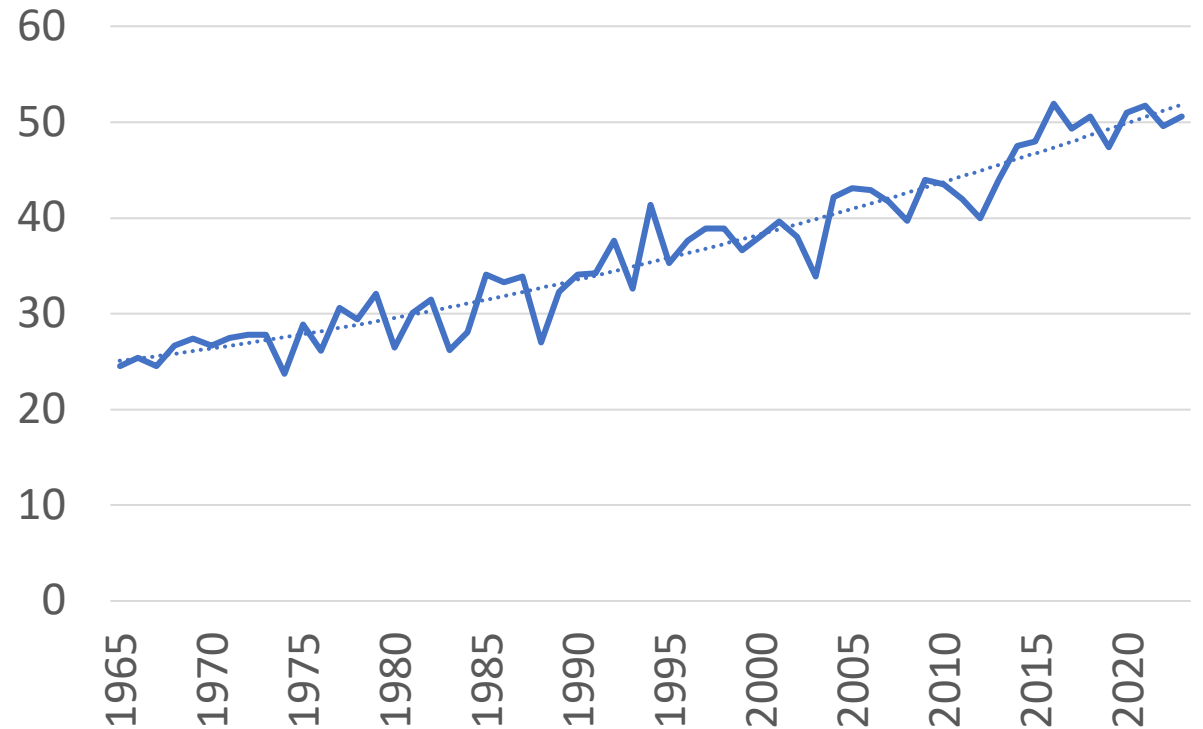


# Improvements in feed production

## US National Average Corn Yield



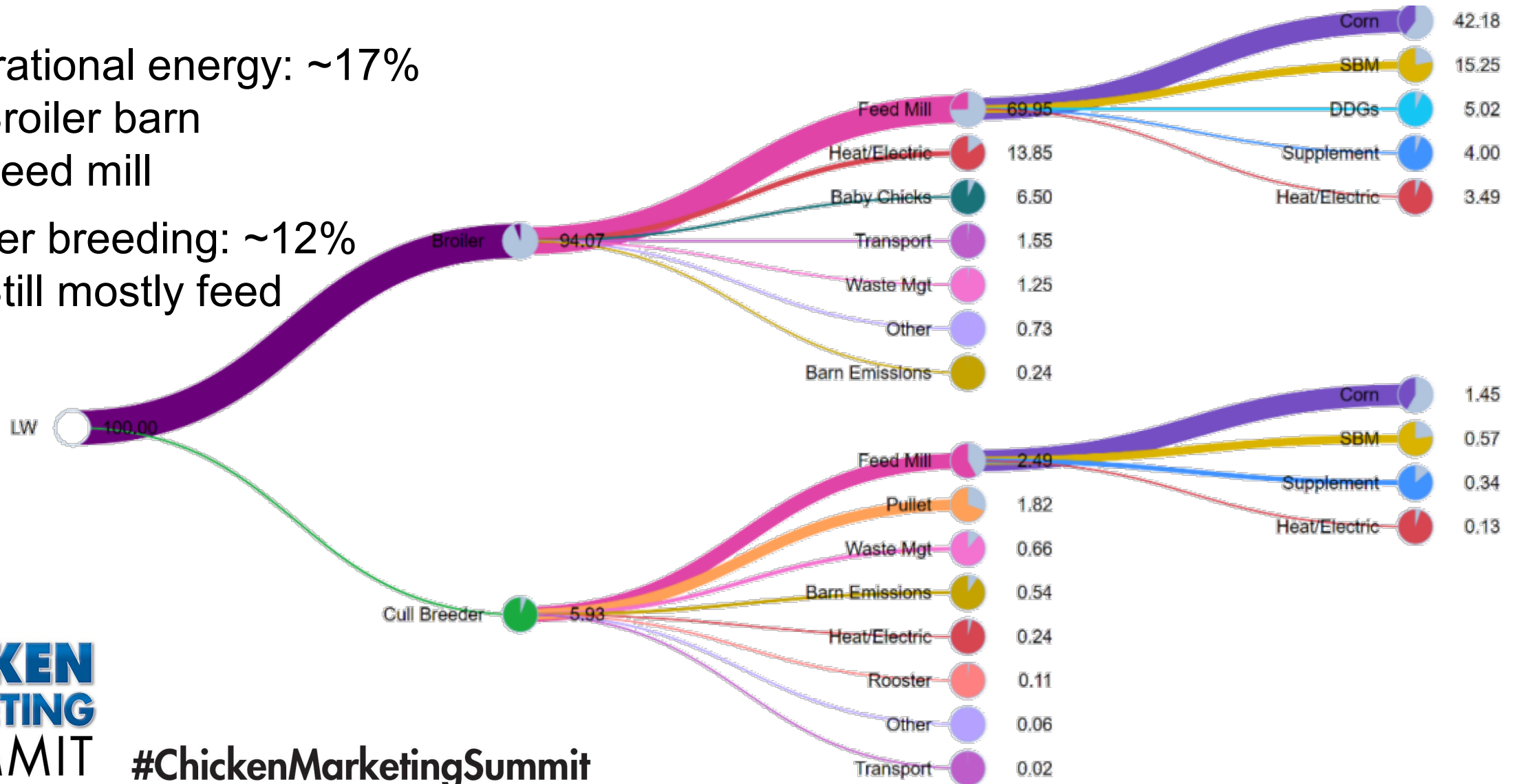
## US National Average Soybean Yield





# Other Emissions to Target?

- Operational energy: ~17%
  - Broiler barn
  - Feed mill
- Broiler breeding: ~12%
  - Still mostly feed



# The Role of Removals

- Removals in the poultry sector refer to agricultural soil carbon sequestration in feed crop production
- Practices for achieving removals often referred to as regenerative agriculture
- They include erosion control, use of larger root plants, reduced tillage, cover cropping, restoration of degraded soils, biochar amendments

# Challenges Facing Future US Poultry Sustainability

- Implementing more sustainable practices can come at an economic cost, especially in the near term
- Accounting for GHG emission reductions in poultry supply chains is challenging
- Accounting for GHG reductions often inhibited by resources, data, and onerous reporting requirements

**How are companies in the poultry sector addressing sustainability-related challenges?**

# Peco Foods



- 8<sup>th</sup> largest poultry producer in the U.S.
- Fully integrated grower, processor, and marketer
- Family owned and operated for 80 years
- Sustainability is a core company value



# Peco Foods Journey in GHG Accounting

- Been calculating scope 1 and 2 (owned and operated emissions) for almost a decade
- Established 2022 baseline that includes scope 3 emissions (indirect emissions)
- Expects to have SBTi targets set by end of 2024

# Takeaways from Peco Foods

- Accounting scope 1 and 2 emissions can be done internally
- Scope 3 accounting can require additional resources and outside expertise
- Benefits to comprehensive accounting and target setting include hot-spot identification and strategic planning
- Need to know where you are to understand where you need to go

# INDUSTRY EXAMPLE 2

Waiting on final approval with client

## In Conclusion...

- The US poultry sector has made big gains in sustainability over the 60 years
- Improvements in production practices, bird genetics, and feeds have allowed the industry to produce more chicken with less GHG emissions
- Targets like SBTi FLAG dictate even greater improvements occur in poultry sustainability over the coming decade



## In Conclusion...

- Historical drivers of improvement may not be enough, with removals becoming increasingly important
- Challenges go beyond finding solutions, such as those relating to economics and GHG accounting
- Despite the challenges, companies in the poultry sector are making sustainability initiatives work for their business and their customers

# THANK YOU

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