

Cost of European environmental standards and additional regulations for German agriculture

DBV initiated study by HFFA Research Institute & Ruhr University Bochum

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Costs of European environmental standards and additional regulations for German agriculture

A farm-level and sector-level analysis and aggregation

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- **Problem setting:**

- The future of German agriculture and the further development of the Common Agricultural Policy (**CAP**) of the EU are in public debate.
- The principle “**public funds for public services**“ triggers this discussion.
→ In this context, environmental costs supposedly caused by the agricultural sector are often discussed.
- Not part of this discussion are **costs associated with services of the sector** to protect the environment and deliver societally benefits which often exceed requirements set by legal standards.

- **Study objectives:**

- **Comprehensive analysis** of the additional costs for German agriculture associated with environmental standards and additional regulations.
- **Comparison of the situation** in Germany and important non-EU competitor countries.
- Contribution to **objectivity** of the ongoing **public debate**.
- A direct comparison of the costs of environmental standards and other regulations with the publicly debated environmental costs associated with agricultural activities **is not an objective of this study**.

- **Methodology (I): Using a dual concept and reliable data**

- Comprehensive analysis of already available scientific information and data.
- Extensive calculations and projections on two levels:
 - The entire agricultural sector;
 - Average agricultural farms.
- Definition of costs to be associated with standards and regulations:
 - Additional production costs (caused by e.g. changing input use);
 - Lower market revenues (caused by e.g. reduced productivity).
- Own calculations are rather conservative, cost effect is not over-estimated.
- Only data derived from official statistics is used for aggregation purposes.
- **Important:** Transparency of the data generation process and aggregation.

- **Methodology (II): Included standards and regulations**
 - Quantifiable standards and regulations:
 - a) EU Water Framework Directive;
 - b) New German Fertilizer Ordinance;
 - c) Additional legislation on plant protection (EU regulation 1107/2009 concerning the placing of plant protection products on the market);
 - d) Specific standards and regulations regarding livestock farming;
 - e) Additional bureaucracy and cross-compliance;
 - f) Greening;
 - g) Pending amendment of the German Technical Instruction on Air Quality.
 - Standards and regulations, whose costs are not calculated.

- **Methodology (III): Still excluded costs of standards and regulations:**
 - Examples of currently not quantifiable cost drivers:
 - Costs of a potential ban on various active ingredients of chemical plant protection;
 - Costs of currently debated additional animal welfare measures;
 - Costs of more crop diversification and a ban on plant protection measures in the realm of the Greening.
 - Examples of further not included aspects:
 - Social standards, e.g. costs regarding a minimum wage;
 - Non-remunerated agricultural services, e.g. in the context of preserving open landscape (willingness to pay amounts to several billion EUR).

- **Costs of the EU Water Framework Directive**

- Analysis of the following data and information:
 - Substantial analysis within a study on management planning of river basins in North Rhine-Westphalia;
 - Fundamental costs of water protection by agricultural businesses (primarily cross-compliance regulations concerning fertilizer and plant protection, storage sites etc.);
 - Contributions by farms (costs of cooperation and consultancy);
 - Ca. 134 million EUR in North Rhine-Westphalia (NRW).
- Extrapolation of these results for the overall sector:
 - Land use and fertilizer application in NRW are very similar to Germany;
 - Costs: ca. **92 EUR/ha** or **1.54 billion EUR** in total.

• Costs of the new German Fertilizer Ordinance

○ Analysis of relevant data and information:

- Calculated compliance costs for the economy: 191.2 million EUR;
- Additional costs due to a low-loss and low-emission application of liquid fertilizers (0.34 – 3.36 EUR/m³): 245.2 million EUR;
- Additional leased farmland for application of excess N: 33.6 million EUR;
- N- and P-reduced feeding strategy: 22.5 million EUR.

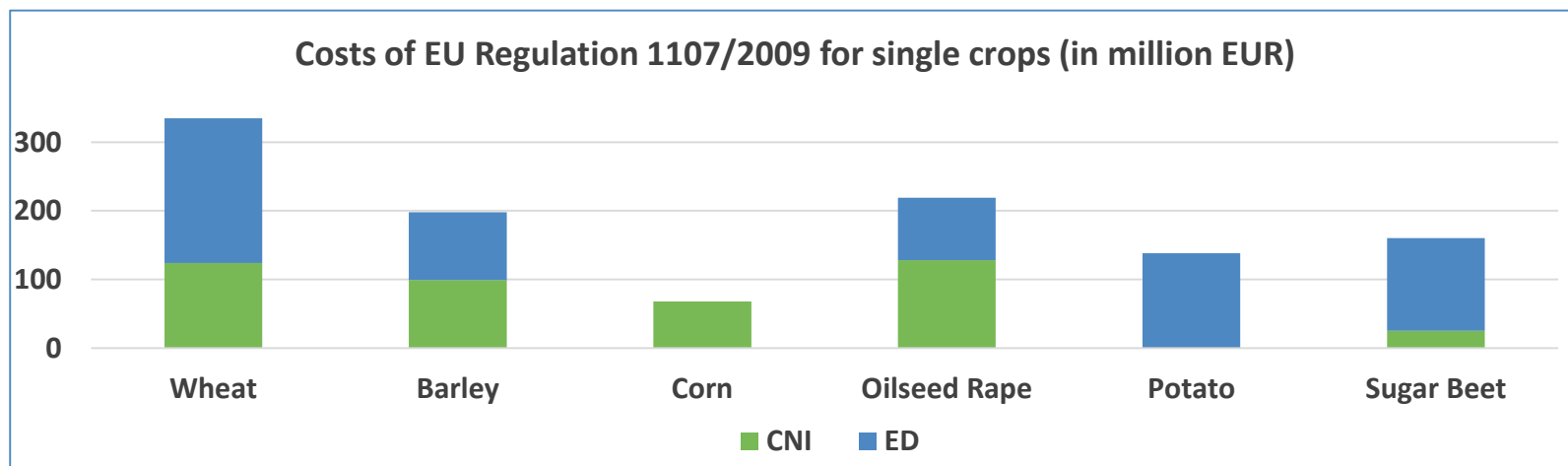
○ Extrapolation of these results for the overall sector:

- Costs: ca. **0.49 billion EUR** in total.

Crop	Additional costs	Crops	Additional costs
Wheat	21.68 EUR/ha	Oilseed rape	25.30 EUR/ha
Barley	21.68 EUR/ha	Potato	26.29 EUR/ha
Rye/Triticale	21.68 EUR/ha	Silage maize	62.50 EUR/ha
Corn/CCM Maize	55.75 EUR/ha	Other green fodder	28.30 – 47.60 EUR/ha

Costs of agricultural standards and regulations

- **Costs of additional legislation on plant protection (EU Regulation 1107/2009)**
 - Analysis of relevant data and information:
 - Cumulative effect of the regulation's "cut off" criteria: 2.4 billion EUR;
 - It seems too pessimistic; we "only" analyze a ban on neonicotinoids (CNI) and active ingredients with endocrine effects (ED).
 - Extrapolation of these results for the overall sector:
 - Costs: ca. **1.12 billion EUR** in total.



- **Costs of specific standards and regulations regarding livestock farming**

- Analysis of relevant data and information:

- This study includes impacts of 16 directives and regulations;

- Milk: 5.61 EUR/t;

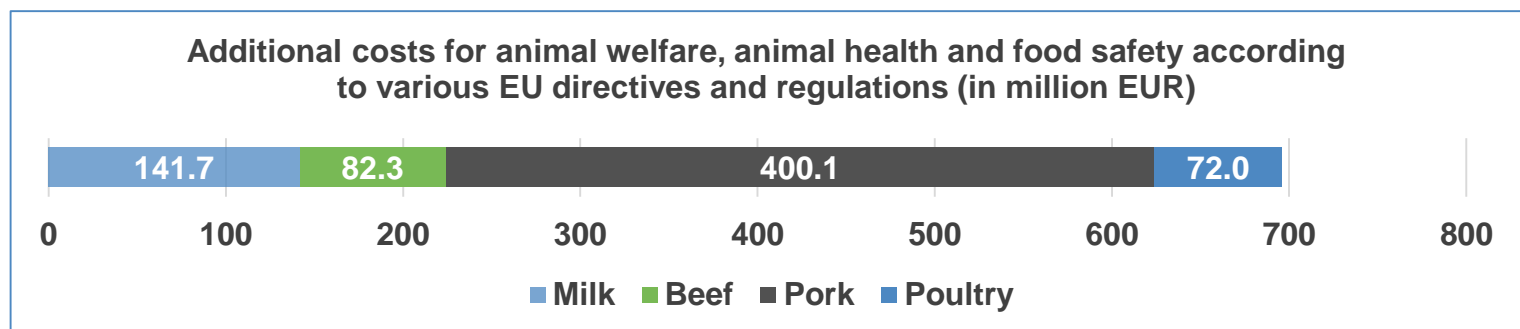
- Beef: 36.87 EUR/t slaughter weight;

- Pork meat: 71.68 EUR/t slaughter weight;

- Poultry meat: 47.15 EUR/t slaughter weight.

- Extrapolation of these results for the overall sector:

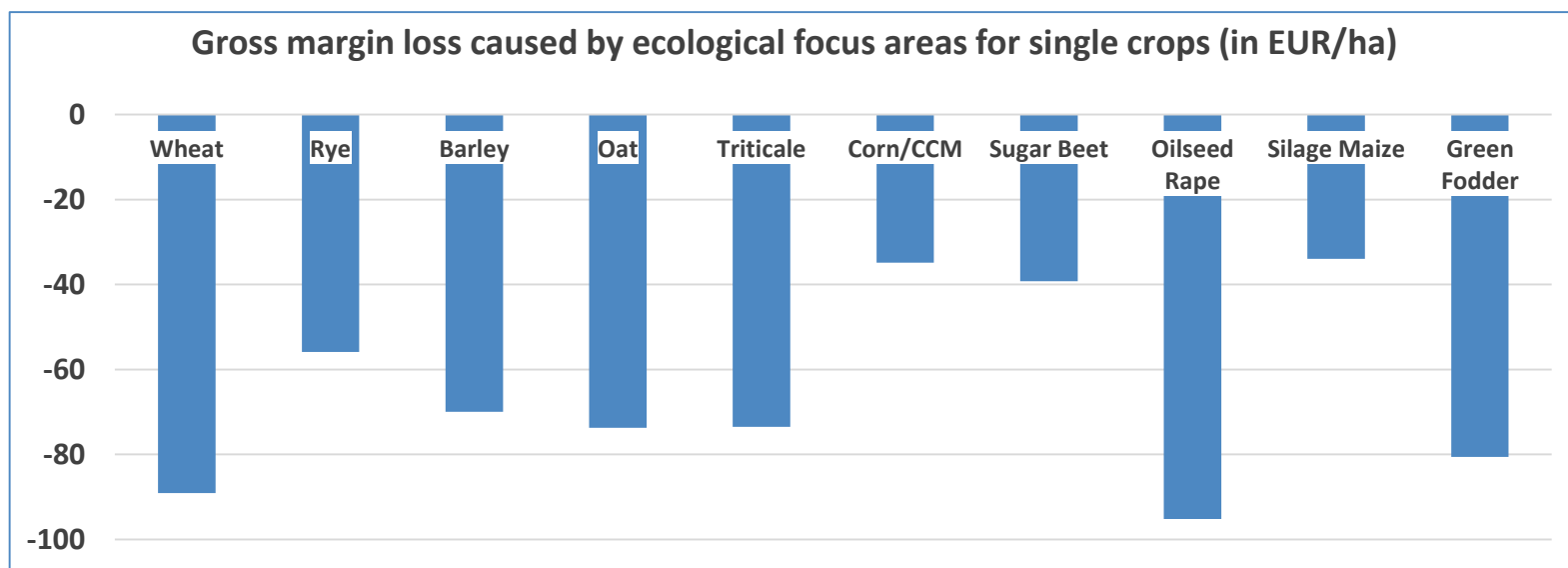
- Costs: ca. **0.70 billion EUR** in total.



- Further costs for bureaucracy and Cross Compliance
 - Analysis of relevant data and information :
 - Many costs for Cross Compliance and bureaucracy are already included in previous calculations;
 - But not the costs of applying for EU direct payments;
 - These are on average ca. 14.93 EUR/ha;
 - Furthermore, costs for food safety: 1.21 EUR/t wheat.
 - Extrapolation of these results for the overall sector:
 - Costs of applying: ca. 250 million EUR;
 - Food safety (only wheat): ca. 8 million EUR;
 - Costs: ca. **0.26 billion EUR** in total.

- Greening Costs

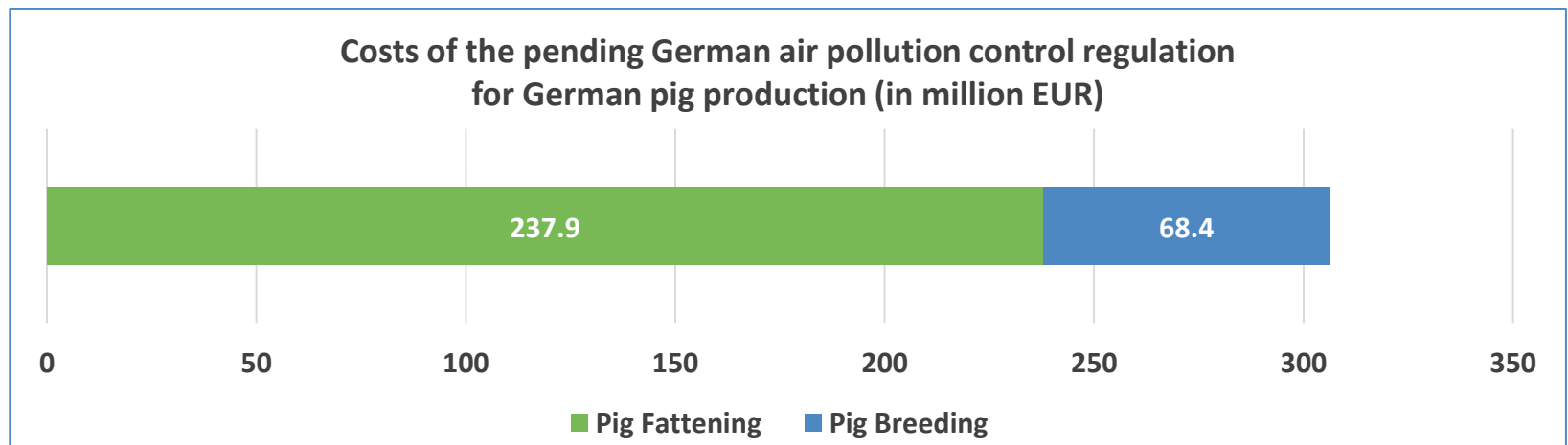
- Extrapolation of these results for the overall sector:



- Costs of ecological focus areas: ca. 835.6 million EUR;
- Additional costs of the ban on converting grassland to arable land:
31.2 million EUR;
- Costs: ca. **0.87 billion EUR** for the overall sector.

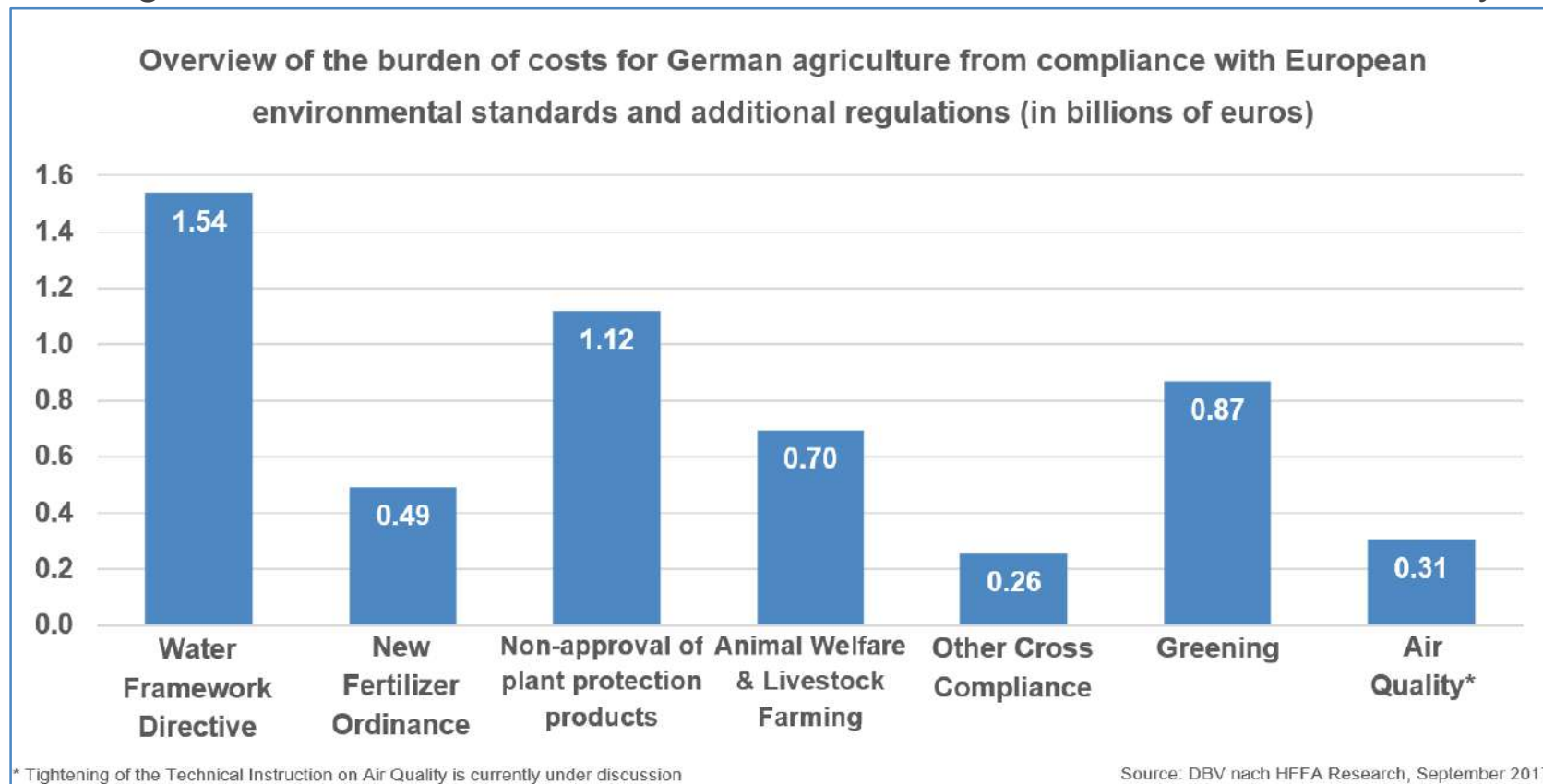
- **Costs of the pending German Technical Instruction on Air Quality**

- Analysis of relevant data and information :
 - Costs in pig fattening: 18 – 21 EUR/place;
 - Costs in pig breeding: 22 – 50 EUR/place;
 - Costs of cattle farming: Not quantifiable, but certainly very high.
- Extrapolation of these results for the overall sector:
 - Costs: ca. **0.31 billion EUR** in total (for pig production).



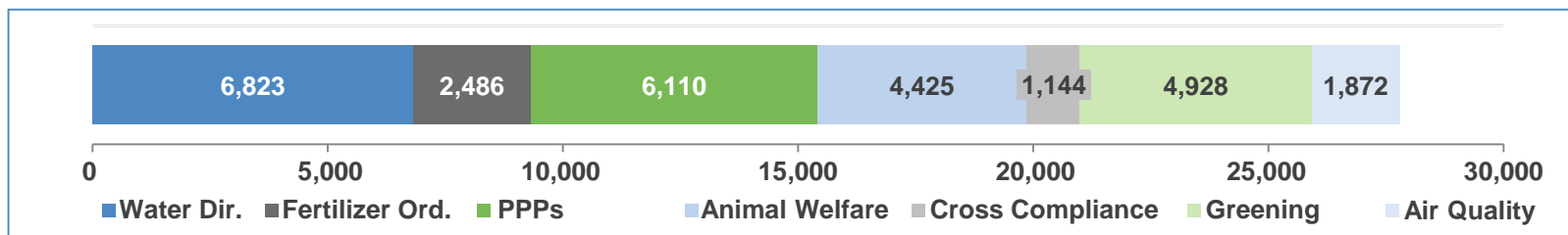
Costs of agricultural standards and regulations

- Accumulated costs of the herein included standards and regulations
 - While avoiding double counting, costs for all included environmental standards and regulations amount to **over 5.2 billion EUR** or **315 EUR/ha** in Germany.

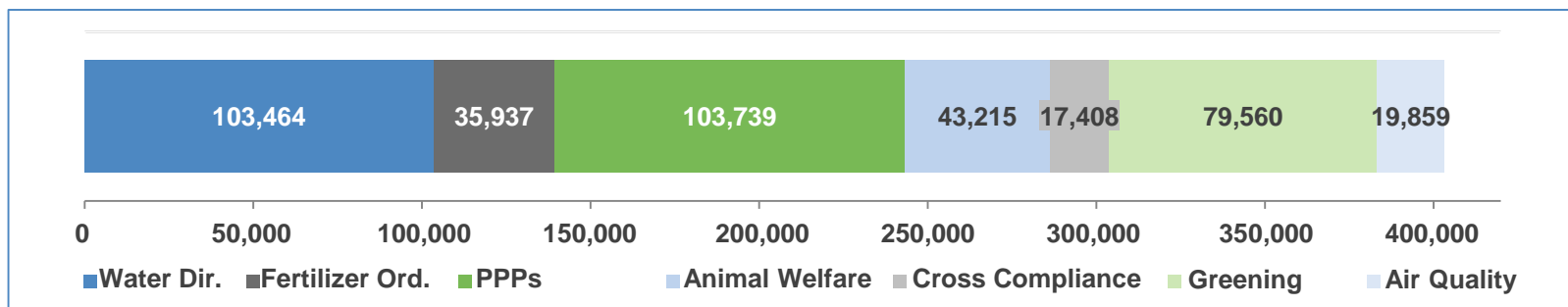


- Aggregated costs for average farms

- According to the German farm accountancy data network, a full-time family farm should anticipate costs of 28,000 EUR per year or 367 EUR/ha.



- A corporate entity is burdened with over 400,000 EUR per year or 356 EUR/ha.



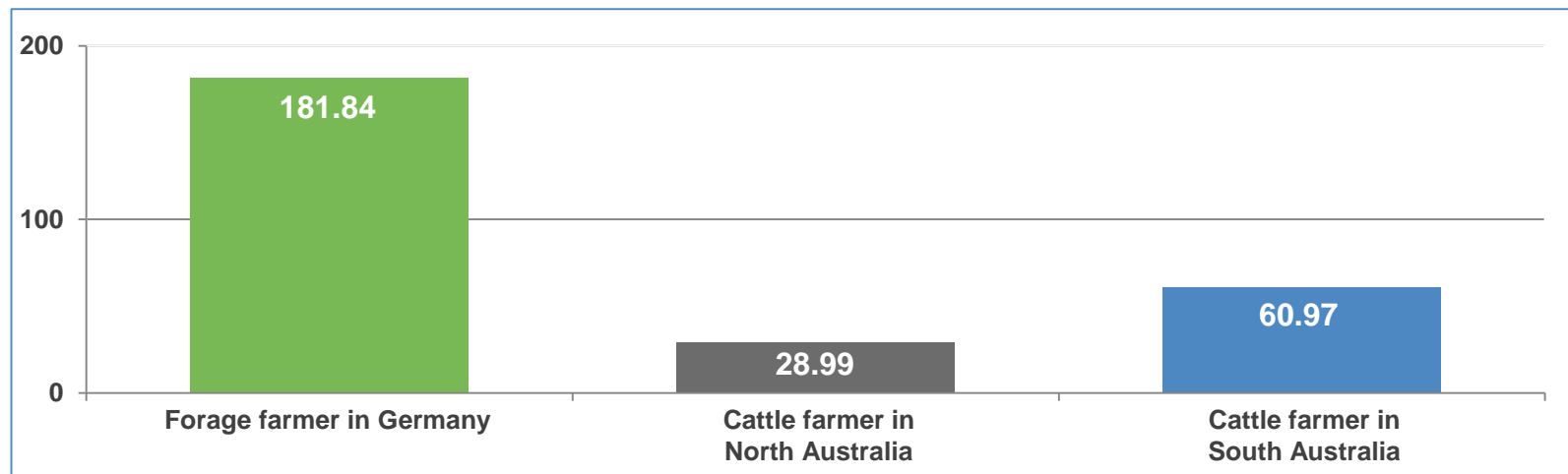
- A full-time family farm producing milk/beef has costs of 278 EUR/ha.

- Comparison of the situation in Germany with non-EU competitor countries (I)

- Due to limited available data, this analysis is built upon case studies from scientific and expert literature.
- It becomes possible to determine the cost differences in selected competitor countries as regards standards associated with the water framework directive, animal husbandry and food safety:

Product	Costs for Germany	Costs for competitor A	Costs for competitor B
Milk (EUR/t)	6.26	1.94 (AUS)	2.63 (NZL)
Beef (EUR/t slaughter weight)	70.99	7.10 (ARG)	101.52 (BRA)
Pork meat (EUR/t slaughter weight)	154.16	41.62 (BRA)	0.69 (USA)
Poultry meat (EUR/t slaughter weight)	26.90	0.57 (BRA)	0.00 (THA)
Wheat (EUR/t)	4.26	0.03 (CAN)	0.68 (UKR)

- Comparison of the situation in Germany with non-EU competitor countries (II)
 - Other case studies also display significantly lower costs for the compliance with country-specific standards in competitor countries:
 - Regulatory costs of cattle farming in Germany: 182 EUR/livestock unit; corresponding costs in Australia: 29 – 61 EUR.



- Standard-related costs of poultry production in Germany: 19 ct/kg live weight; corresponding costs for non-EU competitors: 9 – 15 ct.

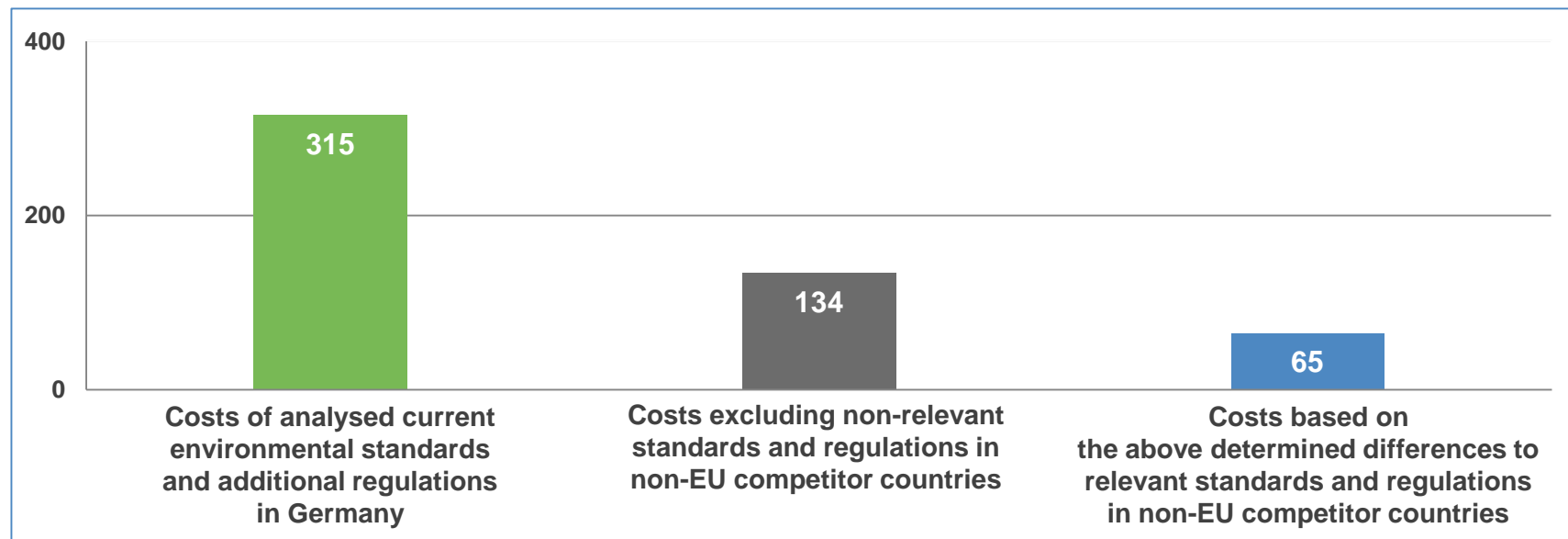
- Comparison of the situation in Germany with non-EU competitor countries (III)
 - These **case studies** lead to the conclusion
 - (a) that comparable standards are weaker outside the EU and
 - (b) that their compliance costs are lower than in Germany.
 - Further **considerations** support this conclusion:
 - For Germany costs for seven standards/regulations were calculated above;
 - **Some** of these costs **are not existent outside** the EU or Germany:
 - Costs of the new German Fertilizer Regulation: 493 million EUR;
 - Costs of EU regulation 1107/2009: 1.118 million EUR;
 - Greening costs: 867 million EUR;
 - Costs of pending German Air Quality regulation: 306 million EUR;
 - Costs of the application for EU direct payments: 250 million EUR.

- Comparison of the situation in Germany with non-EU competitor countries (IV)
 - The findings can be condensed:
 - The **costs for German farmers** associated with environmental standards and regulations amount to a **minimum of 5.2 billion EUR**;
 - In non-EU countries more than 3.0 billion EUR of these costs do not occur, because various specific standards or regulations are inexistent.
 - The costs in non-EU competitor countries for the remaining and (in the context of this study) comparable standards are (significantly) lower.
 - In other words: If for German farmers:
 - (a) only those standards of non-EU competitors were relevant and if
 - (b) these standards caused the same amount of costs as in competitor countries, the burden on Germany's agriculture would be much lower.

Costs of agricultural standards and regulations

- Summary on the comparison between Germany and non-EU competitors

- Costs associated with standards and regulations in Germany: 315 EUR/ha.
- Costs for German farmers minus the costs associated with standards and regulations inexistent in non-EU competitor countries: 134 EUR/ha.
- Burden on German farmers when considering cost differences of the remaining and comparable standards in non-EU competitor countries: 65 EUR/ha.



- **Study conclusions:**

- The costs of complying with standards and regulations for German agriculture are a considerable burden in comparison with non-EU competitors.
- This leads to significant disadvantages regarding income and competition.
- In particular, it is important to note that such compliances require considerable and continuous investments, which are not sufficiently internalized by markets.
- Therefore, this cost burden (especially when comparing internationally) must be part of the upcoming discussion on the CAP.
- Specifically, one must note that farmers consider these standards and regulations as an expression of societal preferences and therefore help to follow and carry them.

Costs of agricultural standards and regulations

- Core take aways:



1.

German farmers stand by the high European and German standards for agriculture and food production unconditionally. This applies in particular to environmental, climate, and animal protection, but also to other areas. In conditions of open markets, our European and German standards are services of agriculture for the public and desired by the public, which must be valued. In the public debate, however, the argument of public goods must be properly dealt with and the entire range of such services must be included.

Costs of agricultural standards and regulations

- Core take aways:



2.

The burden of government regulation and standards must be taken into account when discussing the future of agriculture. In German agriculture, the analysed thematic areas lead to additional costs and foregone revenue amounting to more than 5.2 billion EUR annually. This amount is significant and represents a considerable factor, which has an impact on the competitiveness and income situation of farmers.

Costs of agricultural standards and regulations

- Core take aways:



3.

The comparison with important non-EU competitor countries clearly shows the additional burdens for German farmers. This is a competitive disadvantage for agriculture, which must be taken into account in the political debate on the CAP and EU agricultural payments. This is particularly true with regard to the competitiveness of agriculture in its existing form with diverse agricultural structures.

Costs of agricultural standards and regulations

- Core take aways:



4.

In open markets and with regard to many products, German farmers are working in direct competition with suppliers who have lower or no standards to meet. This development is a consequence of the deregulation and opening of agricultural markets, which has been politically predetermined since the early 1990s. Against the background of the numerous trade agreements under negotiation or in the planning stage, it is to be expected that this development will continue and that the mentioned conflict will become even more critical.

Costs of agricultural standards and regulations

- Core take aways:



5.

New challenges and compliance with existing regulations and standards demand continuous investment from farmers to meet these requirements. The associated additional costs and improved quality of the products are rarely or not at all rewarded via the producer price. The study shows that direct payments – no matter in what form – have to be seen alongside public goods of considerable size. This must be taken into account in the discussion on the future CAP.