

Greenhouse Gas Emissions and Energy Use Issue Brief

Importance to Elanco and our Stakeholders

Climate change represents a significant risk to populations around the world, as increases in greenhouse gas (GHG) emissions contribute to rising global temperatures, droughts, more extreme storms and rising sea levels. Effective energy and emissions management is critical to limiting the impacts of climate change, for our operations and the global community.

We're committed to conducting business in an environmentally responsible manner and taking active measures to reduce energy use and minimize emissions.

Our Action

Elanco takes a comprehensive approach to energy management and efforts to reduce our GHG emissions – encompassing our global operations as well as our value chain. As we continue to increase our focus in this area, we launched a new global Sustainability Community of Practice in 2024 to highlight localized internal talent and initiatives. This initiative is divided into two working groups - one focused on manufacturing and R&D locations, and another focused on our commercial sales affiliates.

- The manufacturing and R&D group works to identify opportunities and best practices regarding identified or completed initiatives at our largest centers of consumption and emissions.
- The commercial sales affiliate group focuses on opportunities and best practices demonstrated by our regional sales organizations. This group also provides an opportunity to gain insights about customer interest in Elanco's sustainability initiatives – potentially outlining a pathway to further engage with our customers on sustainability matters.

These groups foster cross-functional collaboration to exchange ideas and results. They seek to facilitate short- and long-term goal setting, enhance tracking of key performance indicators and accelerate progress and impact. In this way, successes in Germany or the United Kingdom might serve as templates and inspiration for facilities or teams in Southeast Asia, Brazil or the United States.

We also continue to enhance our systems and data availability, to better inform decision making, meet stakeholder expectations and align with disclosure requirements forthcoming in many of the jurisdictions where we operate. In 2024, we established a platform that provides a monthly managerial dashboard through which we can view energy use and emissions — allowing teams to benchmark against data from prior months, similar internal sites or regions and across emissions sources.

Our approach to managing our GHG footprint is further informed by a TCFD-aligned climate risk and opportunity scenario analysis, most recently conducted in 2023. For information on our practices and identified focus areas, please see our [TCFD report](#).

Energy Management

Elanco carefully considers the hierarchical impacts of our actions toward responsible energy use:

- We employ conservation practices to reduce, wherever possible, the energy required to operate.
- We seek energy efficient technologies and methods to reduce energy demand.
- We source energy from renewable sources wherever possible.

We regularly investigate and implement numerous energy efficiency projects across our manufacturing, warehousing and administrative locations. These include:

- Upgrading to LED lighting where possible
- Equipping facilities with motion sensors to control lighting
- Enhancing heating, ventilation and air conditioning (HVAC) settings to account for the time of day and number of individuals present
- Optimizing equipment settings to reduce electricity and natural gas consumption
- Air leakage reduction initiatives
- Conducting energy assessments at key locations and obtaining relevant certifications — such as the ISO 50001 certification at our Kiel, Germany manufacturing location.

Renewable Electricity

Increasingly, regional utility providers are offering green tariffs or other grid-based renewable electricity options to their customers. These purchasing vehicles generally have certifiable renewable components that may comprise up to 100% renewable energy. Several facilities in our global portfolio subscribe to such renewable energy purchasing mechanisms for electricity:

- Our manufacturing site in Kiel, Germany operates on 100% renewable grid electricity sourced from wind power.
- More than 88% of electricity purchased at our manufacturing site in Fort Dodge, Iowa is generated from renewable sources.¹

¹ 2023 is the most recent year for which Mid-American Energy Company renewable electricity has been certified by the Iowa Utility Board

- Our affiliate office in Macquarie Park, Australia and our Huningue, France manufacturing and warehouse locations purchase 100% renewable grid electricity.
- Our future headquarters in downtown Indianapolis is planned to operate on 100% renewable grid electricity when construction is completed in 2025.

We may seek to expand our use of green tariffs at additional locations in the future, as availability permits. However, grid-based solutions alone will not enable Elanco to achieve our goal to purchase renewable electricity equivalent to 100% of our electricity consumption by 2030. To accelerate our progress, we're exploring options for Power Purchase Agreements (PPAs), Renewable Energy Certificates (RECs) and other types of Energy Attribute Certificates (EACs) around the world. Further, we're evaluating opportunities for on-site solar arrays at Elanco properties with physical space and attributes that could support such installations.

Emissions Management

Our Scope 1 GHG emissions result predominantly from natural gas and fuel oil use related to manufacturing Elanco products at owned and leased facilities, as well as fleet vehicle use across our sales teams. Across our portfolio, we've been able to achieve significant emission reductions. Examples include:

- Purchasing 100% climate-neutral eco gas at one of our largest manufacturing facilities
- Consolidating, idling and selling facilities, which decreased our manufacturing footprint
- Shutting down coal boilers at one site, which reduced CO₂e by 56,400 metric tons/year
- Switching from fuel oil to natural gas for a boiler at another location, reducing CO₂e by 2,100 metric tons/year
- Adapting fermentation process changes to reduce energy demand
- Installing a Combined Heat-Power (CHP) unit for burner optimization at one of our locations
- Maximizing CHP usage through load balancing to minimize grid electricity consumption
- Installing control software to track demand and match turbine output demand, to prevent unnecessary importing and exporting of electricity
- Optimizing a large-scale air compressor at one of our locations with variable speed drives – to provide more efficient air leak management, reducing emissions by more than 11,000 metric tons of CO₂e over a two-year period.

Scope 2 GHG emissions relate primarily to purchased electricity at owned and leased facilities. Given that our combined Scope 1 and 2 GHG emissions footprint is predominantly from

purchased electricity, energy efficiency plays an important role in our emissions management strategy.

We also seek to influence GHG emissions reductions beyond our direct operations. Beginning with fiscal year 2021, we finalized our first comprehensive Scope 3 GHG emissions analysis, determining that 11 of the 15 Scope 3 categories identified by the GHG Protocol are relevant to Elanco's business.

Our teams across the globe have executed a number of initiatives to reduce Scope 3 GHG emissions:

1. **Logistics:** We have enhanced our logistics reporting capabilities and tools to gain more granular visibility into Scope 3 emissions generated from our collaboration with freight forwarders. This provides us with ongoing, automated emissions calculations. As we further develop visibility with our freight forwarders, we may identify additional optimization opportunities to reduce emissions and improve efficiency in this area.
2. **Data visibility:** We have completed implementation of a project to automate the gathering of all utility billing invoices globally and began mapping our carbon footprint in a single dashboard, allowing us to establish sustainability task forces with key vendors.
3. **Commuting:** Our Huningue, France and Warsaw, Poland locations have implemented green commuting incentives encouraging employees to bike or ride the train to work.
4. **Packaging:** We have implemented and continue to research numerous sustainable packaging initiatives.

We expect to monitor supplier energy and emissions management initiatives, in part, through a third-party due diligence platform. In the future, we may seek to directly collect supplier emissions data in lieu of spend-based estimates, as well as details on supplier emissions reduction goals and initiatives.. These insights will enable us to engage categorically across our value chain to help reduce emissions, where possible.

Transportation and Distribution

Our logistics data collection and freight forwarder dashboard considers air, sea, rail and road transportation modes across our top international freight forwarders – representing more than 90% of our product volume. (A freight forwarder is a person or company that coordinates and organizes the movement of shipments on behalf of a shipper.) Our logistics platform provides us with ongoing, automated emissions calculations.

We have identified multiple future opportunities to further advance logistics efficiency and emissions reduction:

Distribution Center Management

- **Domestic (U.S.) distribution:** Elanco has been working to improve the structure and coordination of our domestic distribution network. By refining our network of warehouses and distribution centers, we have optimized transportation modes and flows — maintaining service levels while reducing shipping distance and carbon emissions.
- **International freight:** We continue to optimize our international freight operations from Germany to the U.S., to reduce cost as well as our carbon footprint. In some markets, we've transitioned from small volume/high frequency shipments by individual facilities to a model that aggregates material at a mother hub before distributing from that location in bulk. Such consolidation has helped optimize shipping routes and overall trip count, reducing emissions.
- **Europe, Middle East and Africa (EMEA) network:** Based on the success of our U.S. and international distribution efforts, we are exploring a similar hub-and-spoke approach to serve Elanco affiliates across the EMEA region — to help improve service levels, while reducing cost and transportation-related emissions.

Transport Mode Optimization

- **Transport management system:** In 2023, we implemented automation software to inform strategic decisions across air, sea and road transportation modes at one pilot site. This platform helps select the most time efficient, cost effective and environmentally friendly shipping approach — which is good for both our bottom line and environmental footprint. We plan to extend this program to all Elanco sites in 2024 and 2025.

Manufacturing Optimization

- **Manufacturing strategy:** We are reviewing our manufacturing approach to identify, reduce or eliminate backtracking shipments — to further optimize our manufacturing process and reduce emissions.
- **Elanco External Manufacturing (EEM) capability:** This approach involves making informed, sustainable choices for fuel, contributing to a reduction in our carbon footprint. Our goal is to combine operational efficiency with environmental responsibility, facilitating manufacturing processes that align with our commitment to sustainability. For example, we can optimize product carbon footprints for livestock feed ingredient premixes by planning logistics to prevent backtracking and by diluting the mix as late as possible in the process, to keep volume and weight down.

Truckload Size Management

- **Shipment optimization:** We're evolving our legacy focus on shipping timelines to consider road transportation service costs and reduced emissions. In some areas,



utilizing multiple smaller shipment sizes in a single truck or a multi-stop truck can lead to better utilization, while in EMEA we're moving from less-than-truckload to full-truckload shipments.

Supporting reduced customer emissions

Elanco's commitment to sustainability includes supporting our customers as they seek to maximize productivity and reduce their environmental footprint. Our products and services can help customers reduce feed inputs per animal, increase yield from the same size herd/flock and operate more sustainably with fewer overall methane or ammonia emissions.

Livestock sustainability is a key area of focus for Elanco commercially and in our pipeline, with projects that could support emissions reduction for additional species beyond cattle. Our four-pillar approach to supporting customer GHG emissions reductions includes:

- **Innovation:** Through research, development and strategic partnerships, we offer products and services that can reduce both absolute emissions and emissions intensity.
- **Measurement:** We're developing tools our customers can use to measure their GHG emissions - establishing baselines and quantifying improvements.
- **Value creation:** We're helping establish opportunities, including capital markets, that can reward producers for GHG emissions reduction progress.
- **Advocacy:** We collaborate with customers, policy makers, and non-government organizations (including academia, and industry associations) to create and disseminate best practices that can catalyze broader systemic change.

Elanco is helping producers – and animals – be part of the climate solution. We're building a leading emissions reduction portfolio across industry and geography and are partnering with customers and other stakeholders to create products and services that can help meet customer GHG reduction goals.

Elanco Products with Sustainability Protocols or Claims	
Bovaer®	<p>Bovaer is a first-in-class methane-reducing product for beef and dairy cattle available in the U.S., Canada and Mexico. Bovaer consistently reduces enteric methane emissions up to 30% for lactating dairy cows.*</p> <p>In May 2024, the FDA completed its review of Bovaer, enabling Elanco to market the product for lactating dairy cows in the U.S. In addition, we expanded our collaboration with dsm-firmenich, giving Elanco additional rights to market Bovaer in Canada and Mexico.</p>
Experior®	<p>Experior is the first FDA-approved product with an environmental claim. Experior helps reduce ammonia gas emissions per pound of carcass weight in cattle fed in confinement. When fed at the approved doses and duration, Experior reduces ammonia gas emissions up to an estimated 16%, according to clinical research studies.</p>
Rumensin®	<p>Rumensin is approved by the FDA to help beef and dairy farmers produce more meat and milk using fewer natural resources, when used according to its approved label. Because it reduces feed requirements, Rumensin positively impacts resource utilization and as a result of its mode of action reduces methane, while preventing and controlling disease.</p>
UpLook™	<p>Uplook by Elanco is an insights-based engine designed to quantify GHG emissions reductions, using on-farm data and peer-reviewed science to identify key drivers of an operation's carbon footprint and track the progress of sustainability efforts.</p>

Metrics and Measurement

To facilitate comprehensive and accurate tracking of our energy usage and emissions inventory, we use software to help streamline data collection and calculation. In 2022, we broadened efforts to understand and account for all applicable GHG emissions. We expanded our reporting boundary for Scope 1 and 2 emissions to include all sites and assets for which we have full operational control, including our global fleet. In the first half of 2023, we completed a comprehensive analysis of our 2021 and 2022 Scope 3 emissions.

In 2024, our enhanced emissions inventory will help us progress on our goals by:

- Progressing toward our existing 2030 goal to purchase renewable electricity equal to 100% of our electricity consumption

- Refining global fleet policies and composition — including additional integration of hybrid and electric vehicles, where practicable
- Conducting assessments at key sites, to understand additional energy efficiency and emissions reduction opportunities.

We track and disclose the following energy and GHG metrics:

- Total energy consumption
- Total energy intensity
- Total electricity consumption
- Total electricity intensity
- Total and % renewable electricity
- Scope 1 GHG emissions
- Scope 2 GHG emissions (location and market based)
- Combined Scope 1 and 2 emissions intensity (location and market based)
- Scope 3 GHG emissions.

For details, please view our [ESG Key Performance Indicators](#)

Governance and Risk Management

Our Board of Directors oversees, and our executive management team is engaged in, Elanco's activities and approach to address climate-related risks and opportunities. The Board's Corporate Governance Committee oversees our overall ESG and sustainability program – including our strategy, programs and policies related to climate change and operational sustainability. These include monitoring efforts to reduce emissions, waste and the consumption of energy and water, investments in renewable energy, development of our climate transition plan and goals, and efforts to comply with current and future climate-related disclosure regulations.

Our Global Head of ESG and Sustainability oversees internal management of Elanco's climate-related strategy, programs, goals and disclosures – with further oversight from the Elanco Healthy Purpose Steering Committee. Our Healthy, Safety and Environment (HSE) organization – part of our manufacturing and quality business unit and led by our Senior Director of Global HSE – has operational responsibility for the resilience of our operations, including energy and water use, as well as waste and emissions management. HSE receives oversight from the global HSE Steering Committee, a cross-functional group which includes representatives such as our Executive Vice President of Human Resources; our Executive Vice President of

Manufacturing and Quality; our Executive Vice President, General Counsel and Corporate Secretary; our Executive Vice President of Innovation and Regulatory and our Global Head of ESG and Sustainability.

HSE Governance Documents

All business areas, including manufacturing and quality, research and development, affiliate locations and general administrative offices, are required to operate with an HSE management system that adheres to the requirements of the Elanco HSE Policy and associated standards. The basic elements of the HSE Management System Standard align with internationally recognized management systems such as ISO45001 (Occupational Health and Safety Management Systems), ISO14001 (Environmental Management Systems), American Chemistry Council's Responsible Care Management System and the Occupational Safety and Health Administration Voluntary Protection Program.

Our global HSE policy contains core principles and expectations that our employees apply in their daily activities. This policy is implemented through our global standards and procedures, articulating our commitments and setting basic requirements for both regulatory requirements and established best practices. Our core governing documents include the following:

- Global HSE Policy – Protecting People, the Environment and our Assets
- Environmental Standard
- Health and Safety Standard
- HSE at Global Affiliate Offices and Shared Service Centers Standard
- HSE Management System Standard
- Process Safety Management and Combustible Dust Standard
- Product Stewardship Standard.

Climate-related Ties to Compensation

Annual performance measures for our Senior Director of Global HSE, select members of our global ESG and sustainability team, select members of our global HSE team and others across our business include considerations for demonstrable action toward environmental sustainability-related programs, targets and/or objectives. Based on role, these may include progress toward measuring our climate-related risks and opportunities and creating associated action plans. They may also include progress toward our renewable electricity goal or other environmental impact reduction or risk mitigation initiatives and goals, as well as development and execution of plans to address regulatory compliance and accurate/transparent disclosure of our environmental sustainability metrics and efforts. Performance toward such goals and



priorities is taken into account when the supervisor determines merit salary increases, bonus awards and/or stock awards (if eligible).

The content of this brief is informed by global ESG disclosure standards and frameworks.

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End Notes:

*Kebreab E, Bannink A, Pressman EM, Walker N, Karagiannis A, van Gastelen S, Dijkstra J. A meta-analysis of effects of 3-nitrooxypropanol on methane production, yield, and intensity in dairy cattle. J Dairy Sci. 2023 Feb;106(2):927-936. doi: 10.3168/jds.2022-22211. Epub 2022 Dec 7. PMID: 36494226; PMCID: PMC9868067

Bovaer is a registered trademark of dsm-firmenich.