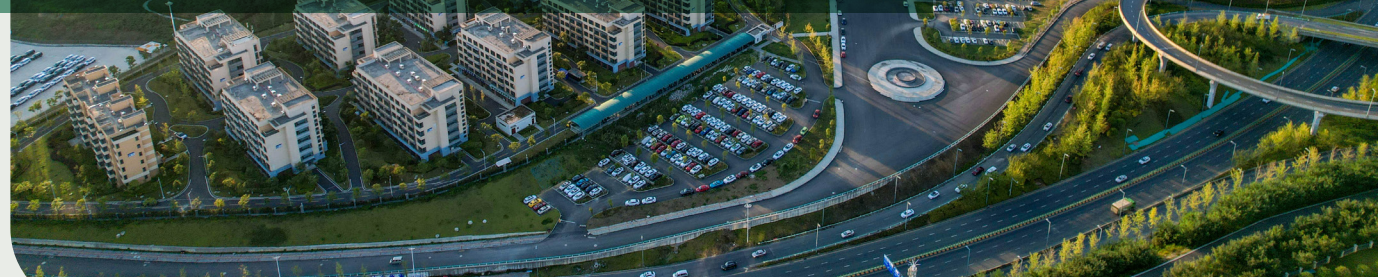


Advancing Green Production and Pioneer a Carbon-Neutral and Nature-Positive Future

Geely Holding



PROJECT OVERVIEW

Since 2022, Geely Holding has set an overarching goal of achieving full-chain carbon neutrality by 2045, committed to building a resilient, responsible and sustainable value chain. To this end, all business units within the Group have established comprehensive environmental management systems and adopted environmentally friendly production practices. These include reducing resource consumption during manufacturing, increasing the share of renewable energy, deploying high-efficiency waste-treatment and recycling technologies, and promoting circular economy initiatives—measures that lower carbon emissions across production processes and lessen dependence on natural resources.

Furthermore, Geely Holding actively responds to international frameworks such as the United Nations Sustainable Development Goals (UN SDGs), the Convention on Biological Diversity (CBD), and the Kunming-Montreal Global Biodiversity Framework (GBF). We are strategically committed to becoming a nature positive enterprise and have developed a clear roadmap for a nature positive business transition. Through this, we seek to unlock win-win synergies between ecological protection and industrial growth, contributing to global biodiversity conservation targets.

COMPANY/ORGANIZATION PROFILE

GEELY

Zhejiang Geely Holding Group (“Geely Holding”) was founded in 1986. In 1997, Geely Holding entered the automotive industry and has since focused our core business on the development and production of automobiles. Geely has continued to grow with a focus on continuous technological innovation, talent development, and strengthening core competitiveness, all the while staying committed to sustainable development. In 2024, the Group total sales reached approximately 3.337 million vehicles, ranking tenth in the world. Sales of new energy vehicle reached approximately 1.488 million vehicles, a 52% YoY increase, representing 45% of aggregate sales. Geely Holding is committed to becoming a globally competitive and influential automotive, technology and investment group that leads through a “green and low-carbon, intelligent, connected, passenger and commercial vehicle, ground and space integrated ecology”.

PROJECT OUTCOME

1. Geely Auto established the Circular Manufacturing Center and the carried out plant recycling, equipment recycling, vehicle recycling and material recycling. In 2024, 1,770 units of recycled vehicles were maintained, 67,419 components were recycled and remanufactured and 10,690 tons of circular materials were recycled.

2. Lynk & Co Yuyao subsidiary established an innovative solvent recycling system, which purifies waste oil-based solvents (classified as hazardous waste) from the painting workshop and then recycled and reused in the painting production line. As of the reporting period, 44.5 cubic meters of solvent had been recycled, reducing 40.5 tons of hazardous waste and saving raw material costs.

3. Lynk & Co Chengdu plant sends waste solvents to certified processors for purification and preliminary treatment, after which the solvents are returned to the painting workshop for reuse.

4. In 2024, the Lotus Global Smart Factory generated a total of 23,241 MWh from its rooftop PV array. 9,384 MWh were consumed on-site, covering 47.7 % of the plant’s total power needs (including on-site suppliers); the remaining 13,857 MWh were fed into the grid. This displacement of conventional power avoided 12,991 tCO₂e over the year. Concurrently, process retrofits, high-efficiency equipment and intelligent energy-management systems continue to cut absolute consumption and close material loops across the facility.

5. Volvo Cars closed-loop aluminum recycling systems were introduced at its Taizhou, Chengdu and Daqing plants. Volvo Cars also improved degreasing processes at the Torslanda painting workshop and had significantly reduced hazardous waste generation.

PROJECT HIGHLIGHTS

1. By 2024, Geely Holding have received a total of 11 waste free plant certifications and 17 national-level green plant certifications.

2. In 2024, Geely Auto's all domestic manufacturing facilities achieved a 100% compliance discharge of industrial wastewater, waste gases, and general waste, and a 100% compliance discharge of key pollutants and solid waste. All new or expanded projects at our domestic manufacturing facilities completed their Environmental Impact Assessment (EIA) and the required "Three Simultaneous" environmental measures (design, construction, and operation) with a 100% completion rate.

3. Geely Auto has pioneered a full-chain waste free management model, driving progress toward the "Three Zero" green circularity goals: zero wastewater discharge, zero landfill waste, and zero hazardous waste emissions. The company was recognized by the Ministry of Industry and Information Technology and the Ministry of Ecology and Environment as a national pilot case for waste free enterprise.

PROJECT IMPLEMENTATION

1. Green environmental management system

Geely Holding is dedicated to building green plants, guided by the principles of the Health, Safety, and Environment (HSE) management system. We have developed a robust environmental management framework that includes operational procedures, standards, and evaluation protocols. Many of our business units have been certified to the ISO 14001 Environmental management systems. Guided by the principles of waste free design, waste free manufacturing waste free supply chain and waste free recycling, Geely Auto promoted the use of new materials and new processes, increased the proportion of recycled materials, and improved product recyclability from the R&D phase onward, the vehicle's recyclability rate has been increased to $\geq 96.6\%$; Applied big data for smart and accurate electricity usage management of large-scale equipment; 190 water saving, energy-saving, and hazardous waste reduction special activities were carried out, and the intensity of hazardous waste generated decreased by 7% in 2024; Incorporated "green, low-carbon, and waste free practices" as a key supplier admission criteria and a core evaluation metric in the supply chain performance evaluation system 481 suppliers have been included in Geely Auto's waste free manufacturing standards, covering 2,488 components and reducing solid waste production by 18,000 tons annually.

2. Clean-energy substitution and building wind-PV-storage smart micro-grids

Geely Holding's business units actively establish photovoltaic facilities and continuously expand the installed capacity. They also increase the proportion of hydropower consumption in manufacturing bases in an orderly manner, and optimize the green manufacturing system on an ongoing basis. During the reporting period, Geely Auto focused on the construction of distributed photovoltaic power plants, the installment of energy storage systems, and retrofitting of coating waste heat recovery facilities. By 2024, Geely Auto's installed photovoltaic capacity has reached 445 MW, with 6 vehicle manufacturing bases using 100% renewable electricity. Farizon Auto has generated 13,333.07 MWh of photovoltaic power.

3. Implementing pollutant and waste management

Geely Holding's business units are committed to

achieving the "Three Zero" green circularity goals: zero wastewater discharge, zero landfill waste, and zero hazardous emissions. This is pursued through source reduction, process control, and end-of-pipe treatment. We promote clean production, standardize environmental protection efforts, and ensure the effectiveness and long-term viability of our environmental management practices.

4. Practicing efficient resource management

Geely Holding views resource management as a core pillar in delivering its sustainability strategy and driving high-quality development. We remain committed to the efficient use of resources, particularly in water and material management, by applying systematic approaches and innovative technologies. Based on our ongoing management strategy optimization, we improve resource utilization efficiency, and lay a solid foundation for green and low-carbon development.

5. Digital transformation powering high-efficiency production

Geely Holding has self-developed the EMS 2.0 platform, purpose-built for the automotive industry's advanced-manufacturing and energy-management requirements. By ingesting massive IoT energy data and exchanging information with the "factory-brain", MES and ANDON systems, EMS 2.0 delivers dynamic energy baselines, consumption forecasting and AI-assisted decision-making, enabling self-adaptive energy governance. The platform furnishes full-spectrum data for lean energy management and, through parameter optimization, continuously trims line-side energy use.

6. "GeeCarbon": mapping the carbon inventory for science-based reductions

For cradle-to-grave carbon management, Geely Holding deploys its proprietary "GeeCarbon" platform. It builds product-level footprint models that cover raw materials, energy, logistics and fugitive emissions, while integrating an organization-level emissions control framework. The system rapidly inventories carbon sources, pinpoints reduction hotspots and informs science-based decarbonization strategies.

7. Creating plant-based demonstration scenarios

Geely Auto has taken its factory in Guiyang plant as a pilot to conduct a natural capital assessment, identifying and evaluating the impact, dependence, risks and opportunities of automobile manufacturing activities on nature in a monetized manner, including stamping, welding, painting, assembly and other operational processes, and found that with the continuous strengthening of environmental protection investment and energy-saving technological transformation, the emissions reduction efficiency of air pollutants, wastewater, solid waste, greenhouse gases and water resource utilization efficiency were significantly improved, and the external impact/ social cost generated by nature is showing a downward trend, which means that adopting effective technologies to enhance the utilization of natural capital and reduce its consumption is the key to managing the nature-related impact, while technological deficiencies or backwardness may bring more management costs to enterprises.

PROJECT IMPACT & SUSTAINABILITY

Geely Holding's carbon-reduction approach—pairing digital-intelligence and green technologies—has created state-level "Green Plant" that overturn the old narrative of carbon cuts being pure cost, proving they can also generate value. This provides the auto industry with a clear roadmap for science-based decarbonization and green development.

At the same time, Geely Auto has distilled its in-house carbon management expertise into a full-cycle maturity-assessment framework and an integrated reduction solution set that covers both vehicle and component manufacturing. The toolkit lets OEMs and suppliers raise their carbon-performance while balancing cost and value, accelerating the sector's low-carbon transition.

To deepen nature-positive stewardship, Geely Auto is now scaling the Guiyang plant experience to all 18 vehicle-manufacturing bases. Each site undergoes a Nature-Positive Maturity Review (self-assessment plus third-party verification) that quantifies direct and indirect impacts on nature, guiding every factory toward ever-greener production.

Expert Comments

This case systematically demonstrates the full-value-chain and multi-dimensional practices in green and low-carbon transition of an automobile manufacturer. Its key highlight lies in the deep integration of green factory construction, clean energy substitution, and zero-waste management with Geely's self-developed digital platform, forming a systematic "technology + management + platform" solution. The company's national "Zero-Waste Enterprise" pilot and its exploration of natural capital monetization have reflected a forward-looking approach to environmental governance. Through precise management and control, the project has achieved tangible results, including a single-vehicle recyclability rate of $\geq 96.6\%$ and a 7% reduction in hazardous waste intensity. It has also extended green standards to 481 suppliers, establishing a supply chain system of coordinated carbon reduction. With mature carbon management solutions and advanced digital tools, the case provides a replicable and scalable transition pathway for traditional manufacturing industries, demonstrating strong industry leadership and long-term optimization potential.