

2026 Friede-Gard Prize for Sustainable Economics – Award Ceremony for Antonio Valero Capilla and Alicia Valero Delgado

Professor Dr. Antonio Valero Capilla and Professor Dr. Alicia Valero Delgado are recipients of this year's Friede Gard Prize for Sustainable Economics. They represent two generations of the Zaragoza School of Thermoeconomics. Thermoeconomics applies the laws of thermodynamics—a branch of physics—to determine the costs of our economic activities (including products, production processes, and waste) based on "energy consumption" (more precisely: exergy consumption). This provides a yardstick for measuring the extent of the (non-)sustainability of our current economic system and offers approaches for targeted improvements.

After earning a degree in mechanical engineering, Antonio Valero Capilla specialized in the thermodynamic analysis and energy optimization of machines and production processes, and based on his findings, he developed a general theory for evaluating our planet's mineral and fossil raw materials. Together with his daughter, Alicia Valero Delgado, a chemical engineer, he expanded this into a thermodynamic and thermoeconomic theory encompassing the entire raw material cycle ("cradle-to-cradle," i.e., "from untouched nature back to untouched nature"). Hundreds of scholarly publications and several books present the results of their research.

Professor Valero Capilla and Professor Valero Delgado are receiving the 2026 Friede-Gard Prize for the creation and development of thermoeconomics and their major contributions to the application of this theory to issues related to sustainability. These include, in particular: first, the concept of "Thanatia" (thermodynamically "dead planet") as the final stage of the Earth if the exploitation of non-renewable resources continues unabated; second, the concept of "Pristinia" as the goal of restoring agricultural land to its pristine natural state; and third, the concept of "Circular Thermoeconomics" for the thermodynamic assessment of the actual quality of a circular economy.

Further information about the two award winners and their work will be available on the Friede-Gard Prize homepage on the Environmental Campus Birkenfeld website (www.umwelt-campus.de/friede-gard-preis).

The awards ceremony is scheduled for **Thursday, October 15, 2026, starting at 6:00 p.m. as an online event** (in German and English). During the event, Professor Valero Capilla and Professor Valero Delgado will provide an accessible insight into and overview of their work.

For an audience with specialized knowledge, an **online seminar** with the award recipients is scheduled for **Friday, October 16, 2026, starting at 9:00 a.m.**, in English or German.

The Friede Gard Prize for Sustainable Economics is an award recognizing scholarly achievements that represent significant progress in advancing economic science toward an economics that supports a sustainable economy and society.

It is awarded annually by the non-profit Friede-Gard Foundation (www.friede-gard-stiftung.de), which was founded in 2020, and is endowed with €5,000 per prize winner.

The Friede-Gard Foundation collaborates on this initiative with the Department of Environmental Economics and Environmental Law at the Birkenfeld Environmental Campus of Trier University of Applied Sciences (www.umwelt-campus.de/friede-gard-preis).