Stanford

Joel Swisher

Adjunct Professor, Atmosphere and Energy Operations

Bio

BIO

Joel N. Swisher, PhD, PE, is Consulting Associate Professor of Civil and Environmental Engineering at Stanford University, where he teaches graduate-level courses on greenhouse gas (GHG) mitigation (covering technical and business strategies to manage GHG risks) and electric utility planning methods (covering supply and demand-side resources, resource integration and expansion planning). His current research at Stanford addresses the integration of plug-in vehicles with the power grid and the barriers and synergies related to metering, tariffs, load management, customer incentives, and charging infrastructure.

Dr. Swisher is also an independent consultant with over 30 years experience in research and consulting on many aspects of clean energy technology. He is an expert in energy efficiency technology and policy, carbon offsets and climate change mitigation, and electric utility resource planning and economics. He has consulted with numerous utilities, manufacturers and technology companies on resource planning, energy efficiency, vehicle electrification and clean energy deployment strategies. He has also helped consumer-oriented firms design strategies to expand simple cost-saving energy investment programs into brand-building corporate sustainability campaigns.

Dr. Swisher is a thought leader in several areas of clean energy technology and business strategy. As Director of Technical Services and CTO for Camco International, Dr. Swisher helped develop carbon offset projects in reforestation, agriculture, renewable energy and building energy efficiency, and he has authored emission inventories, baseline studies and monitoring and verification plans for multilateral banks and private offset buyers. Starting in 1989, Dr. Swisher performed seminal research on carbon offset baselines and technical and economic analysis of carbon offsets in the energy and land-use sectors.

Dr. Swisher was managing director of research and consulting at Rocky Mountain Institute (RMI), where he led RMI's consulting team in work for numerous high-profile clients, including electric utilities and producers of goods ranging from semiconductor chips to potato chips. At RMI, he created the concept of the Smart Garage, which explores the energy system synergies in which vehicle electrification helps enable zero-emission vehicles and a cleaner power grid. He led an RMI team that convened an industrial consortium (including Alcoa, Johnson Controls, Google, etc.) to develop a new, lightweight, plug-in hybrid vehicle platform for Class 2 truck fleet applications. Collaborating with the design firm IDEO to conduct interdisciplinary design workshops, the RMI team initiated a working design to attract funding and move toward production, which proceeded as a spin-off company, Bright Automotive in Indiana.

Dr. Swisher holds a Ph.D. in Energy and Environmental Engineering from Stanford University. He is a registered Professional Engineer and speaks five languages. He is author of over 100 professional publications including The New Business Climate: A Guide to Lower Carbon Emissions and Better Business Performance and a bilingual (English and Portuguese) textbook on energy efficiency program design and evaluation and integrated energy resource planning.

ACADEMIC APPOINTMENTS

- Affiliate, Precourt Institute for Energy

Teaching

COURSES

2026-27

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)
- Explore Energy Seminar: Launch: CEE 108B, CEE 208B, ENERGY 108B, ENERGY 208B (Win)
- Explore Energy Seminar: Navigate: CEE 108A, CEE 208A, ENERGY 108A, ENERGY 208A (Aut)
- Explore Energy Seminar: Propel: CEE 108X, CEE 208X, ENERGY 108X, ENERGY 208X (Spr)

2025-26

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)
- Explore Energy Seminar: Launch: CEE 108B, CEE 208B, ENERGY 108B, ENERGY 208B (Win)
- Explore Energy Seminar: Navigate: CEE 208A, ENERGY 108A, ENERGY 208A (Aut)
- Explore Energy Seminar: Propel: CEE 108X, CEE 208X, ENERGY 108X, ENERGY 208X (Spr)

2024-25

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)
- Explore Energy Seminar: Launch: CEE 108B, CEE 208B, ENERGY 108B, ENERGY 208B (Win)
- Explore Energy Seminar: Navigate: CEE 108A, CEE 208A, ENERGY 108A, ENERGY 208A (Aut)
- Explore Energy Seminar: Propel: CEE 108X, CEE 208X, ENERGY 108X, ENERGY 208X (Spr)

2023-24

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)
- Explore Energy: CEE 108, CEE 208, ENERGY 108, ENERGY 208 (Aut, Win, Spr)

STANFORD ADVISEES

Master's Program Advisor

Alexandre Buendia, Samuel Camacho, Clara Conatser, Arthur Deakin, Santina Gatti, Matthieu Hautsch, Xinyu Huang, Yunhan Huang, Kaitlyn Krieger, Katie Nath, Megan Njeri, Anis Turki, Gracie Zhang

Publications

PUBLICATIONS

- **A MECHANISM TO RECONCILE EQUITY AND EFFICIENCY IN GLOBAL CLIMATE PROTECTION - INTERNATIONAL CARBON EMISSION OFFSETS** *AMBIO*
  Swisher, J., Masters, G.
  1992; 21 (2): 154-159

- **BUYING ENVIRONMENTAL INSURANCE - PROSPECTS FOR TRADING OF GLOBAL CLIMATE-PROTECTION SERVICES** *CLIMATIC CHANGE*

Swisher, J. N., Masters, G. M.
1991; 19 (1-2): 233-240