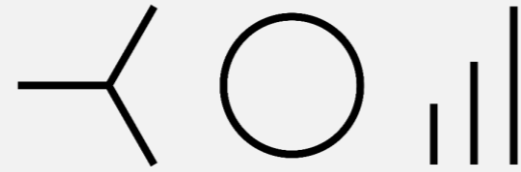


Power Systems & Markets



About Neon

[Neon](#) is a Berlin-based boutique consulting firm for energy economics, founded in 2014. We help our international [clients](#) from the public and private sectors to design and navigate power systems and markets through studies, advisory and trainings.

We work on seven [topics](#): the market value of renewables, electricity market design, redispatch, (whole) system costs, balancing energy, power market modeling and open source / open data.

Our trainings

- » For energy professionals in industry, finance, policy and think tanks
- » Extend your analytical understanding of electricity markets and energy economics
- » Understand Europe's electricity sector during crisis, transformation and decarbonization
- » Applied and relevant, yet scientifically sound and rigorous
- » More than 98% of previous participants would recommend it to a colleague

Pricing and booking

- » Private sector: EUR 12000 + VAT
- » Public sector / NGOs: EUR 9000 + VAT
- » Contact us for bookings and inquiries:
- » hirth@neon.energy
- » [+49 1 57 55 199 715](tel:+4915755199715)

In-house seminars

- » Two intensive days
- » English or German
- » High-quality printed booklets included

1. The Energy System

- » The global energy system
- » The basic physics of power systems
- » The electric power industry
- » The astonishing rise of wind & solar energy

Electricity is fundamentally different from other commodities.

Understand why.



2. Power Plants

- » Power plant technology for non-engineers
- » Coal- and natural gas-fired power plants
- » Hydroelectricity
- » Wind power
- » Solar photovoltaics

3. Cost of Electricity

- » Fixed and variable cost
- » Annualized fixed cost
- » Cost structure of high- and low-carbon generators
- » Levelized costs of electricity (LCOE)
- » Screening curves

4. Value of Electricity

- » Why power prices vary so much
- » Non-storability of electricity
- » Price setting in power markets
- » The Merit Order Model
- » Market value of wind and solar energy
- » Interactive market simulation

5. The Long Term

- » Load duration curves
- » Optimizing the plant mix with pen and paper
- » The Screening Curve Model
- » The end of base load plants
- » Scarcity pricing

6. Fuel Markets

- » The coal market
- » The carbon market
- » The natural gas market
- » The 2022 energy crisis

7. System Transformation

- » Flexibility needs and flexibility resources
- » System-friendly wind power
- » Tapping into hydropower flexibility
- » The demand side
- » Hydrogen
- » Case study: the 2021 Texas energy crisis

8. Markets for Electricity

- » Three markets for electricity: retail, wholesale, system services
- » The day-ahead and intraday markets
- » Forwards and futures
- » Power exchanges and over-the-counter trading
- » Market design

9. Balancing Energy

- » Blackouts
- » Balancing reserve requirements
- » Balancing products and procurements
- » Auction design
- » Imbalance settlement and the imbalance price
- » The “German balancing paradox”
- » When things go wrong: June 2019

10. Power Grids

- » Power grids for non-engineers
- » The DC Load Flow Model
- » Redispatch and congestion management

11. Locational Pricing

- » Zonal pricing
- » Nodal pricing
- » Local markets for flexibility
- » Locational investment incentives

Renewable energy support and climate action are shaping the energy sector.

Understanding policy has never been more important.



12. Electricity Storage

- » Storage technologies
- » Battery & hydrogen deep-dives
- » Behind-the-meter applications
- » System balancing with batteries

13. RE Support Schemes

- » The “why”: reasons to support renewable energy
- » The “how”: support scheme design
- » FIT, FIP, CfD, TGC, ITC, RPS: The diversity of support schemes
- » Risk and de-risking

14. RE Auctions

- » Auction results
- » Optimal bidding strategies
- » Underbidding and the “winner’s curse”
- » Auction design