Alexander Neef

Short Bio

Dr. Alexander Neef is a consultant at Neon. He currently advises the German government on measures to manage excess electricity that occur due to the rapid growth of renewable energy. Prior to his work at Neon, he advised Member of Parliament Lisa Badum on the gas supply of Germany and the future of biogas for electricity generation. He holds a Ph.D in physics from Technical University Berlin and a M.Sc. in physics from University of Regensburg.

Positions

2024 – present	**Consultant at Neon, Berlin** Focus: locational signals in the electricity market, managing excess renewable generation
2024	**Scientific associate, German Bundestag** Advisor to MP Lisa Badum (B90/Grüne). Focus: gas supply of Germany, future of biogas for electricity generation, linking science and politics through the National Academy of Sciences Leopoldina
2018 – 2024	**Doctoral Research, Fritz Haber Institute, Berlin** Study of electronic properties of molecular semiconductors with time- and angle-resolved photoemission spectroscopy. Description of dynamic disorder and orbital-resolved observation of singlet fission

Education

2018 – 2024	**Physics (Ph.D.), Technical University Berlin** "Fluctuations and exciton dynamics in molecular semiconductors" (summa cum laude)
2015 – 2018	**Physics (M.Sc.), University of Regensburg** GPA: 1.2, interim research stay at CIC/Nanogune, San Sebastian
2011 – 2014	**Chemisty and Biochemistry (B.Sc.) Ludwig-Maximillians-Universität Munich** GPA: 1.9
2009 – 2011	**Chemistry (Early university studies), University of Regensburg**
2003 – 2011	**Werner-von-Siemens-Gymnasium Regensburg** GPA: 1.1

HONORS

2024	Best thesis award, Physikalische Gesellschaft zu Berlin
2022	Best poster award, Gordon research conference Lucca
2012 – 2018	Scholarship, Studienstiftung des Deutschen Volkes
2011	4th round, International Chemistry Olympiad

PROJECT HIGHLIGHTS

2024 – ongoing **Photovoltaic excess electricity (BMWK).**

The rapid growth of solar electricity in Germany has led to record energy generation from photovoltaics. During peak generation and low demand, situations may occur where photovoltaic electricity is in excess. Neon advises the Federal Ministry for Economy and Climate Action to manage these events.

2024 – ongoing **Local signals (BMWK)**

In uniform pricing mechanisms such as in Germany, the transport of large volumes of cheap wind energy in the north to load centers in the south and west is frequently constrained by limited grid capacity. This leads to expensive redispatch measures and the loss of cheap wind energy. Neon advises the Federal Ministry for Economy and Climate Action on policies that help to coordinate dispatch and investments by introducing local price signals.