# Alexander Neef

## Short Bio

Dr. Alexander Neef works as Consultant at Neon on locational signals in the electricity market, balancing energy and energy systems. He advises the German government on implementing locational signals to relief grid congestion. For a Danish investment fund, he has analyzed the economic benefits of offshore energy islands. Prior to his work at Neon, he held a scholarship for the German Bundestag, where he worked 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

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| 2024 – present | **Consultant at Neon, Berlin**<br>Focus: locational signals in the electricity market, managing excess renewable generation |
| 2024 | **Scientific associate, German Bundestag**<br>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**<br>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

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

## HONORS

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| 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

2025 – ongoing **Bewirtschaftungsentgelt (BFE)**

The switch to a single-price balancing energy system in Switzerland from 2026 requires an update of the methodology for calculating the management fee for some installations in the feed-in remuneration system. We analyze the existing regulation, identify the need for adjustments, and develop a transparent, data-based formula for the variable cost component (balancing energy costs).

2025 **Offshore energy island (Danish investment fund).**

Germany has ambitious offshore wind targets that require costly grid expansion. For a large project developer we assess whether a hybrid hydrogen/electrical connection of North Sea wind can reduce system costs. 2025.

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.