



APPROACH

ADVANCED PHOTONIC PROCESSES FOR NOVEL SOLAR ENERGY HARVESTING TECHNOLOGIES

From academia to electrical utility
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From academia to electrical utility

My path through academia:

- Studies ETH Zurich (Masters in Materials)
- PhD in Electrochemical Materials (ETH and MIT)
- PosDoc (Prague, Milano)

My path in industry:

- CEZ: largest electricity provider in CZ
 - Assets and business:
 - 2 nuclear power plants, coal (9x), hydro, gas power plants, Czech electricity and gas distribution network, district heating, EV charging infrastructure, PV
 - Vision of decarbonization: increasing renewable and nuclear resources, substituting most coal fuel by 2030
 - Motivation for decarbonization
 - Falling prices of renewables
 - EU Green Deal goals (read Fit for 55)
 - About 30k employees
 - Net yearly profit >1 bil. EUR (most payed out in dividends)
- R&D team
 - Part of the division strategy, 4 employees
 - Cooperation with Universities and Research centers → contract research projects
 - Techno-economic studies for new technologies
 - Feasibility studies for pilot projects
 - Pilots are aiming for technologies that might be commercial around 2035-2040
 - Pilots aim to aid the next wave of decarbonization (limiting natural gas)

R&D in Europe

- The top 2000 global companies invest 85% of private global R&D funds (minimum to be in top 2000 67 mil. EUR)
 - Only 4 have headquarters in widening countries
 - Limited access to capital and R&D teams in widening countries
- The top 50 companies invested 500 billion in R&D (11 are in Europe)
- Top R&D investors in the EU are based in Germany, France and Netherlands (half of the top 800)

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