

urbs – an Open Source Linear Optimization Framework

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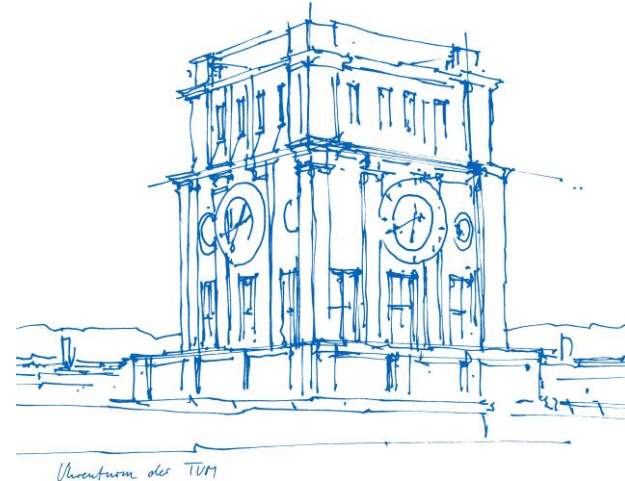
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Task/Exercise

- Single node model
 - Isolated system for hydrogen production
 - Preferably somewhere in Uruguay
- Main goal: Calculate the unit cost of hydrogen production
- Hourly constant hydrogen demand, No electricity demand
- Free to choose the detail level and subsequent research questions

Possible sources for inputs

- H2 roadmap Uruguay
- Intermittent renewable profiles and potentials
 - Global solar atlas <https://globalsolaratlas.info/map>
 - Global wind atlas <https://globalwindatlas.info/map>
 - Renewables Ninja <https://renewables.ninja/>
- Economic data
 - IEA WEO costs projects <https://www.iea.org/reports/world-energy-outlook-2023>
 - NREL ATB costs projects <https://atb.nrel.gov/electricity/2024/data>
 - Global Hydrogen Review IEA <https://www.iea.org/reports/global-hydrogen-review-2023#overview>

Final Presentation

- Explain scope of the model
- Reference energy system diagram
- Research question(s)
- Important input data
- Scenario definition (if any)
- Results
 - Unit cost of Hydrogen produced
 - Capacities and Generation
- Conclusions/observations

Final Presentation:
10.09.2024
Max. 12 slides
15 minutes

Consultation hours:
09.09.2024
3 – 6 pm
Room - 406