

The Energy & Strategy Think Tank (ESTT) at WU's Institute for Strategic Management (ISM) (<https://www.wu.ac.at/en/ism/energy-strategy-think-tank/>) invites applications for a master thesis.

Working Title: Business Model Potential of Data Centers for Energy Providers

Scope, Aims, Methods, and Initial Literature:

The rise of digital services, including social media, streaming, and AI applications, is driving an exponential increase in energy demand from data centers. As data centers continue to expand, their energy efficiency struggles to keep pace with rising computing demands, creating a need for more sustainable energy solutions. The energy requirements of data centers open up an economic opportunity for energy providers. Data centers depend on reliable power, offering energy providers the chance to enter into long-term contracts. In addition, many data center operators are focused on achieving carbon neutrality and seek partners who can help transition to renewable energy sources. Energy providers can meet this demand by offering renewable energy solutions, such as Power Purchase Agreements (PPAs) or direct supply from solar and wind sources. In this context, energy providers can explore new business models by investing directly in data centers, forming joint ventures, or providing energy services. This Master Thesis invites students to explore the business model potential of data centers for energy providers, focusing on exploring innovative business models like "Data Centers as a Grid". To that end, grey literature should be analyzed (Adams, Smart, & Huff, 2017) and expert interviews with organizations and experts from the energy industry should be conducted (Bogner, Littig, & Menz, 2009).

Thesis Language:

English or German (only if you are enrolled in a program with German as main language)

Corporate Partner and Certificate:

Wien Energie – *Austria's biggest regional electricity company*. Upon thesis completion, you will be awarded a certificate that states your tasks, gained expertise, and the corporate partner.

Expectations and Support:

Constant feedback and regular meetings with faculty and, possibly, the above-mentioned corporate partner will facilitate a high-quality thesis with impact on management practice that is completed in a timely fashion. You will be provided with a guideline that details the supervision and writing process, expected deliverables beyond the final thesis, and grading as well as a package to kick off your thesis.

Targeted Students:

Excellent and ambitious students of all MSc and MBA programs at WU Vienna University of Economics and Business are eligible and encouraged to apply. In principle, it is possible to write the thesis together with another student.

Interested?

Send CV and grade certificates of all your studies to alexander.engelmann@wu.ac.at

Initial References:

- Adams, R. J., Smart, P., & Huff, A. S. 2017. Shades of Grey: Guidelines for Working with the Grey Literature in Systematic Reviews for Management and Organizational Studies. *International Journal of Management Reviews*, 19(4): 432-454.
- Bogner, A., Littig, B., & Menz, W. (Eds.). 2009. *Interviewing Experts*. Basingstoke: Palgrave Macmillan.
- Foss, N. J., & Saebi, T. (2017). Fifteen years of research on business model innovation: How far have we come, and where should we go?. *Journal of Management*, 43(1), 200-227.
- Kaack, L. H., Donti, P. L., Strubell, E., Kamiya, G., Creutzig, F., & Rolnick, D. (2022). Aligning artificial intelligence with climate change mitigation. *Nature Climate Change*, 12(6), 518-527.
- Masanet, E., Shehabi, A., Lei, N., Smith, S., & Koomey, J. (2020). Recalibrating global data center energy-use estimates. *Science*, 367(6481), 984-986.
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2-3), 172-194.