

Energy Transitions 10: Wind in Conflict - Analyzing Perceptions on Wind Energy in Europe through Text Analysis using R for a (Social) Media Coverage and Sentiment Analysis

Course plan (Compact course/Blockseminars)

	Date	Room	Content
LV1	26.10.23 14-18h (+ 3h autonomous)	AB210	<u>Introduction</u>
LV2	27.10.23 14-18h (+ 3h autonomous)	AB210	<u>R Basics Review</u>
LV3	09.11.23 14-18h (+ 3h autonomous)	AB210	<u>Sentiment Analysis + Web scrapping</u>
LV4	10.11.23 14-18h (+ 3h autonomous)	AB210	<u>Practical Session + Discussion</u>
LV5	01.12.23 14-18h (+ 3h autonomous)	tba	<u>Conclusion + oral presentations</u>

Seminar description

Wind is deemed to become one of the major energy sources of the 21st century. However, despite its importance to tackle climate change, distrust and misinformation regarding its exploitation exists. Low acceptance amongst societal actors remain – apart from broader ecological, economic, and technical issues – the main obstacle to the much-needed expansion of wind energy. Social acceptance of the expansion of renewables to a large extent depends on perceptions of the advantages and disadvantages by the public and, notably, social groups locally affected. The Wind Barriers Report estimated in 2010 that as much as 30% of wind energy projects in Europe were cancelled due to resistance of local populations filing lawsuits (EWAE 2010). Furthermore, perceptions are often influenced by lobby groups and exacerbated by their reflection in the media (Crouch, 2016). Media deeply influences society's perception of wind energy contributing to setting the public policy agenda: on the one hand they place topics on the public discussion agenda sometimes magnifying problems that such are of relative importance (such as the number of bird strikes when compared with the number of birds hit by cars, killed by housecats or dying in collisions with glass facades); on the other hand they ignore problems which should be discussed at a broader scale (such as the ownership structure of wind parks, mostly excluding local citizens who carry the burden from participation).

In the seminar, the students will have the chance to discuss strategies to overcome skepticism and increase acceptance by analyzing (social) media data through practical exercises. They will learn the basics of the R packages Rvest, quanteda, ggplot2, sentiment.ai, and Twitter API to perform media and Twitter web scraping, analyze data as text, learn how to perform sentiment analysis, and the best methods to graph and visualize data. Students will have the chance to work with a newly collected database containing news and social media posts on wind energy from eight countries. The goal is to apply the methods learned in class and the existing database in their final paper. Students will also acquire the necessary skills to replicate the data collection for further sentiment analysis projects for other countries and topics – e.g., photovoltaics and nuclear energy.

Through a combination of practical exercises and class discussions, by the end of the course, the students will have acquired the skills to

- a) portray media and social perceptions on a topic of interest among different countries;
- b) understand how national and international events may disrupt media coverage and affect society's perception of a topic;
- c) investigate the differences in a topic's sentiment on Twitter and in (social) media;
- d) discuss the use of text analysis tools to support public policy decisions

Literature

Tba

Formalities

Study programs 5/6/9 ECTS

MES modules: ZB Wirtschaft, WPM 6 // IBA modules: S-Module; Faculty of Law: Master of German and Polish Law (Module 3); SPB 5 (European Law) (without ECTS)

Performance test and credits

- 5 and 6 ECTS: regular attendance; oral presentation; term paper around 15 pages
- 9 ECTS: regular attendance; oral presentation; term paper around 20 pages

Students are required to write a paper (80% of the grade) and present their research to the class (20% of the grade).

Deadlines

Registration

By 20.10.2023 at kelso-professorship@europa-uni.de including name, matriculation number, the study program, and the exact title of the course.

Paper submission

Upload final presentation of term paper topic by 30.11.2023 at 23:59

Finalized term paper by the end of the semester → WiSe 2023: 31.03.2023.

<https://www.wiwi.europa-uni.de/de/studium/pruefungen/index.html>

<https://study.europa-uni.de/de/studieren/termine/semestertermine/index.html>

Course Structure

Session 1 - Do 26.10.23, 14 - 18 Uhr

Introduction to Climate Disinformation and Misperception

- Defining climate disinformation and misperception
- Identifying key challenges and consequences
- Overview of the course structure

Session 2 - Fr 27.10.23, 14 - 18 Uhr

R Basics Review - ggplot2 and tidyverse

- Review of essential R programming concepts
- Introduction to ggplot2 for data visualization
- Utilizing tidyverse for data manipulation

Text Analysis for Climate Disinformation and Misperception: The quanteda package

- Introduction to text analysis using R
- Exploring the quanteda package for text processing
- Practical exercises on text data preprocessing

Session 3 - Do 09.11.23, 14 - 18 Uhr

Text Analysis for Climate Disinformation and Misperception: Topic Modelling and Sentiment Analysis

- Understanding topic modelling techniques
- Performing sentiment analysis on text data
- Analyzing sample texts for climate-related misperceptions

Webscraping Introduction - Mediacloud and X API (former Twitter): rvest and Rselenium packages

- Web scraping for data collection
- Using rvest and Rselenium for web scraping
- Extracting data from social media and news sources

Session 4 - Fr 10.11.23, 14 - 18 Uhr

Wrapping Up - Practical Session

- Constructing text databases
- Applying text analysis tools in R for discourse identification (trends, antagonisms, triggers)
- Strategies for combating climate disinformation and misperception

Exploring Students' Ideas for the Final Paper Together

- Discussing potential research topics
- Assisting students in refining their paper proposals

Session 5 - Fr 01.12.23, 14 - 18 Uhr

Paper Topic Presentation

- Students present their project ideas and the current stage of their papers
- Open discussion and peer feedback