ACADEMIC ARTICLE WRITING AND ANALYSIS

Online course for Bachelor and Master Students

TOPIC 2

TITLE
OF ACADEMIC ARTICLE

BEGINNING OF ACADEMIC ARTICLE

Pathways for Germany's Low-Carbon Energy Transformation Towards 2050

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Energies 2019, 12(15), 2988; https://doi.org/10.3390/en12152988 (registering DOI)
Received: 2 July 2019 / Revised: 19 July 2019 / Accepted: 23 July 2019 / Published: 2 August 2019

Abstract
Like many other countries, Germany has defined goals to reduce its CO2-emissions following the Paris Agreement of the 21st Conference of the Parties (COP). The first successes in decarbonizing the electricity sector were already achieved under the German Energiewende. However, further steps in this direction, also concerning the heat and transport sectors, have stalled. This paper describes three possible pathways for the transformation of the German energy system until 2050. The scenarios take into account current climate politics on a global, European, and German level and also include different demand projections, technological trends and resource prices. The model includes the sectors power, heat, and transportation and works on a Federal State level. For the analysis, the linear cost-optimizing Global Energy System Model (GENeSYS-MOD) is used to calculate the cost-efficient paths and technology mixes. We find that a reduction of CO2 of more than 80% in the less ambitious scenario can be welfare enhancing compared to a scenario without any climate mitigating policies. Even higher decarbonization rates of 95% are feasible and needed to comply with international climate targets, yet related to high effort in transforming the subsector of process heat. The different pathways depicted in this paper render chances and risks of transforming the German energy system under various external influences.

Keywords: decarbonization; energy system modeling; GENeSYS-MOD; renewables; energy policy; energy transformation; Energiewende

https://www.mdpi.com/1996-1073/12/15/2988

FUNCTIONS OF ARTICLE TITLES

- To present your research concisely
- To describe article content in different degrees of detail and abstraction
- To attract reader’s attention
- To awake reader’s interest
- To provide the success of computer-based searches

TYPES OF TITLES

FUNCTION: TO STIMULATE THE READER'S INTEREST

1. Titles that announce the **general subject**

2. Titles that particularise a **specific theme** following a general heading

3. Titles that indicate the **controlling question**

4. Titles that just state the **findings**

5. Titles that indicate that the **answer to a question** will be revealed

6. Titles that announce the **thesis** – i.e. indicate the direction of the author's argument

7. Titles that emphasise the **methodology** used in the research

8. Titles that suggest **guidelines** and/or **comparisons**

9. Titles that bid for attention by using startling or **effective openings**

10. Titles that attract by **alliteration**

12. Titles that attract by using **puns**

13. Titles that **mystify**

TITLES WITH GENERAL SUBJECT

- Design of Magnetic Coupler for Wireless Power Transfer
- Interpretation of Quantum Mechanics with Indefinite Norm
- Failure Rates for Aging Aircraft

TITLES WITH FINDINGS

- Effect of the Iron Reduction Index on the Mechanical and Chemical Properties of Continuous Basalt Fiber

- All-Terrain Vehicle Safety—Potential Effectiveness of the Quadbar as a Crush Prevention Device

TITLES WITH SPECIFIC TOPIC

- Energy Use in Residential Buildings: Impact of Building Automation Control Systems on Energy Performance and Flexibility

- Bioinspired Materials: From Living Systems to New Concepts in Materials Chemistry

- The Emergence of Internet of Things (IoT): Connecting Anything, Anywhere

TITLES WITH CONTROLLING QUESTION

- Biological Scaffolds for Abdominal Wall Repair: Future in Clinical Application?

- Waste Municipal Service and Informal Recycling Sector in Fast-Growing Asian Cities: Co-Existence, Opposition or Integration?

TITLES WITH THE ANSWER TO A QUESTION

- Smart Innovation Ecosystems Really Seeking to Meet Citizens' Needs? Insights from the Stakeholders' Vision on Smart City Strategy Implementation

- Influence of Volumetric Damage Parameters on Patch Antenna Sensor-Based Damage Detection of Metallic Structure

TITLES WITH METHODS

- Near-Field Immunity Test Method for Fast Radiated Immunity Test Debugging of Automotive Electronics
- Quantitative Analysis of CO2 Uptake and Mechanical Properties of Air Lime-Based Materials
- Measuring Industrial Health Using a Diminished Quality of Life Instrument

TITLES WITH THESIS

- Improved Capacity and Fairness of Massive Machine Type Communications in Millimetre Wave 5G Network

- The lost art of conversation

TITLES WITH GUIDELINES/COMPARISONS

- Ten Steps in Qualitative Modelling
- Pathways for Germany's Low-Carbon Energy Transformation Towards 2050
- Traffic Safety at Median Ditches: Steel vs. Concrete Barrier Performance Comparison Using Computer Simulation

TITLES WITH EFFECTIVE OPENINGS

- Press Start to Play: Classifying Multi-Robot Operators and Predicting Their Strategies through a Videogame
- Me, My Bot and His Other (Robot) Woman? Keeping Your Robot Satisfied in the Age of Artificial Emotion
- Do You Care for Robots That Care? Exploring the Opinions of Vocational Care Students on the Use of Healthcare Robots

TITLES WITH ALLITERATION

- Legal ease and ‘legalese’
- Referees are not always right: the case of the 3-D graph.

TITLES WITH PUN

- Now take the PIL (Patient Information Leaflet)
- CATSWoTS: Context Aware Trustworthy Social Web of Things System

TITLES WITH MYSTERY

- Outside the whale

- How to Select Balance Measures Sensitive to Parkinson's Disease from Body-Worn Inertial Sensors—Separating the Trees from the Forest

HOW TO CREATE A TITLE

1. Answer basic questions about your paper

- What is my paper about? *My paper studies how…*
- What methods did I use to perform the study? *I employed a …*
- What or who was the subject of my study? *I studied …*
- Where and in what context will the study be conducted? *I made an experiment in…*
- What were the results? *I found out that…*

2. Identify and list keywords and phrases

3. Write one long sentence with these keywords

4. Create a working title

- Delete unnecessary words
- Shift some words to sound more natural

5. Delete all extra words and phrases and put the keywords at the beginning and the end

6. Add a subtitle if necessary

GRAMMAR IN TITLES

- **full-sentence constructions** *'Learning induces a CDC2-related protein kinase';*
- **nominal group constructions** *'Acute liver failure caused by diffuse hepatic melanoma infiltration';*
- **compound constructions** (i.e. divided into two parts, mainly by a colon) *'Romanian nominalizations: case and aspectual structure';*
- **question constructions** *'Does the Flynn effect affect IQ scores of students classified as learning-disabled?'*

TIPS FOR CREATING A TITLE

- ✔ Write a title after you have written your paper
- ✔ Include all of you research essential terms
- ✔ Follow the restrictions on length (8-15 words)
- ✔ Avoid using jargon and abbreviations
- ✔ Use keywords closely related to the content of your study
- ✔ Never use a period at the end of your title
- ✔ Use the recommended grammar in your title

TASKS FOR INDIVIDUAL WORK

- Analyze the title of the article from your field of study that you have found after the first lecture
- Define the type of the title revising the current lecture material
- Do the tasks on the online platform

THANKS
FOR
YOUR ATTENTION