

# **GLOBAL ENERGY POLITICS**

2. Session: History of Energy Use I (27.10.2025)

# PROGRAMM

- Organizational issues
- Input: Energy through the ages – a focus on fossil fuels with discussion on Diesel's dream...
- Group discussion on the politics of energy

# OFFICE HOURS

- Simply write me an email and let's meet ahead or after a class or let's find another date via zoom or in person

# REQUIREMENTS

- Active participation
- Writing four literature reviews of one to two pages to be handed in at the beginning of class (no exception...)
- Term paper or oral exam depending on your program (term paper due 31.03.2026; oral exam on 11., 12., 13.02.2026)

# CONTENT OF CLASS

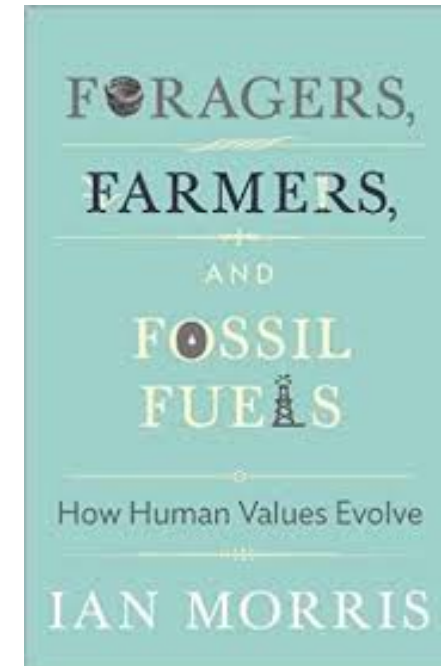
- Introduction with a focus on **historical development**
- Energy **economics** and **governance** national/ global
- Energy **security** and energy wars
- Energy **transitions**
- **Renewable** energy

# WHY STUDY ENERGY POLITICS?

- **Economics:** without energy no growth and no welfare
- **Security:** oil wars, pipeline conflicts, local conflicts over biomass, human rights violations, new geopolitics of RE
- **Social:** energy poverty and energy injustice
- **Environment:** energy one major field of any green transformation
- **Practical aspects:** lots of jobs around and a major theme of TU Darmstadt...

# ENERGY AND CIVILIZATION

- The new “great narrative”
- Ian Morris: all our value systems depend on how we use energy...  
(<https://www.youtube.com/watch?v=Yy2P5XkEPIs>)
- New materialism...?



# ENERGY AND CIVILIZATION

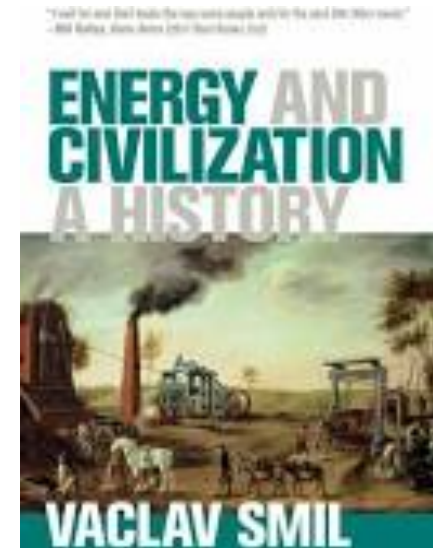
- Vaclav Smith, University of Manitoba (Winnipeg)
- <https://www.theguardian.com/books/2019/sep/21/vaclav-smil-interview-growth-must-end-economists>
- <https://www.youtube.com/watch?v=szikg74kgnM>
- <https://www.youtube.com/watch?v=XEQuMuHsJn4>





# FOSSIL FUELS, PRIMARY ELECTRICITY AND RENEWABLES

- Energy is “the universal currency” (cover)
- From biofuels to fossil fuels
- The great transformation of the 19<sup>th</sup> century (p. 268)



# THE GREAT TRANSITION AND COAL

- History of coal use over almost 1000 years...
  - but only in 17<sup>th</sup> century in England, 19<sup>th</sup> in France and end of 19<sup>th</sup> century in Russia did coal overtake wood
- (Mechanical) innovations (charcoal, coke, steam engine...)
  - History of feedback loops (mining, transport...)
- In UK coal dominant driver for 400 years until the 1950s... and still is in China, India, South Africa....

# THE STORY OF OIL

- Density of energy of oil unmatched...
- Use of oil already more than 2000 years, but large scale extraction at the end of the 19<sup>th</sup> Century (except Russia and Azerbaijan)
- Oil use overtook use of coal only in the 1950s!
- Role of infrastructure (tankers, refineries...)
- Railroads, cars, planes and internal combustion engine
  - Diesel's dream... (page 255):  
Why did it not succeed?

# ELECTRICITY

- Commercialization of energy → light! (Edison, light bulbs and the modern city, also Darmstadt!)
- Energy as agency (Jules Verne..., p. 257)
- Transmission of electricity (high voltage transmission) and the role of transformers
- Efficiency gains through steam turbogenerators (p. 282)

# GROUPWORK: POLITICS OF ENERGY

- Focus on traditional biomass/ coal (1), oil (2) and gas (3)
- What are the political consequences of the increased use of the energy carrier?
  - In how far is the set-up of energy infrastructures a political project?
  - What is the political future of “your” energy carrier?