Natural resources management and geopolitics

Course description
This course explores the dynamic interplay between natural resource management and global geopolitics. It examines the distribution, use, and governance of key natural resources such as water, energy, minerals, and forests, highlighting their critical role in shaping international relations, economic development, and environmental sustainability. Topics include resource scarcity, benefit-cost analysis, transboundary resource conflicts, global energy security, and the geopolitical implications of energy transitions. Through case studies, policy analysis and a thorough theoretical and empirical analysis grounded in the resource economics and environmental economics literature, students will gain insights into strategies for sustainable resource management and their implications for global stability and cooperation.

Prerequisites
Knowledge of macroeconomics, microeconomics, environmental and resource economics

Teaching language:
English

References
T Tietenberg, L Lewis (2018) "Environmental and Natural Resource Economics", Routledge
R Aretzki (2024), "Climate Change, Natural Resources and Geopolitics", Ferdi
M. Grubb et al (2013) “Planetary Economics,” Routledge available online
M. Jaccard (2020), The Citizen’s Guide to climate success, CUP
V. Smil (2019), Growth, MIT Press,
I. Morris (2015), Foragers, Farmers, and Fossil fuels, Princeton University Press
G. Pitron (2018) , La guerre des métaux rares, Les Liens qui Libèrent

Course structure
- 24 hours of lectures
- 15 hours of tutorials

Evaluation
- Continuous hands-on exercises (50%)
  - Tutorials 30%
  - Presentations 20%
- Final exam (50%)

Program

Date	Instructor	Topic	References
15/01/2025	Xavier Galiegue	Growth and natural resources: a controversial issue	D. Meadows, Limits to growth, the 30th Update, (2013) , V. Smil, Growth, (2019)
22/01/2025	Xavier Galiegue	The Economics of Climate Change	AR6 Synthesis Report 2023, Stern Report, 2007. M. Grubb et al (2013) Planetary Economics, Routledge
29/01/2025	Xavier Galiegue	Climate Change and Energy Transition	M. Jaccard (2020), The Citizen's Guide to climate success, CUP
05/02/2025	Xavier Galiegue	The impact of energy transition on natural resources	G. Pitron (2018) , La guerre des métaux rares, Les Liens qui Libèrent, I. Morris (2015), Foragers, Farmers, and Fossil fuels, Princeton University Press
12/02/2025	Xavier Galiegue	Solutions to Natural resource depletion	.Fizaine and X. Galiègue, Mineral economics and the sustainability challenge, ISTE, 2021
05/03/2025	Xavier Galiegue	Environmental policy and natural resources: regulation vs economic tools	D. Phaneuf & T. Requate, A course in environmental economics, Ch3, CUP,2017
12/03/2025	Chahir Zaki	Environmental policy and natural resources: news tools	Tietenberg, L Lewis (2018) "Environmental and Natural Resource Economics", Chapter 6, Routledge
19/03/2025	Chahir Zaki	The Transition from Depletable to Renewable Resources	Tietenberg, L Lewis (2018) "Environmental and Natural Resource Economics", Chapter 7, Routledge

26/03/2025	Chahir Zaki	The Institutional Curse of Natural Resources	Selim, H., and Zaki, C. (2016) "The Institutional Curse of Natural Resources in the Arab World", in "Understanding and Avoiding the Resource Curse in the Arab Region", edited by Ibrahim El Badawi and Hoda Selim, Cambridge University Press.
02/04/2025	Chahir Zaki	Geopolitics of Natural Resources	R Aretzki (2024), "Climate Change, Natural Resources and Geopolitics", FERDI.
09/04/2025	Chahir Zaki	Introduction to Critical Minerals	Hayes, S. M., & McCullough, E. A. (2018). Critical minerals: A review of elemental trends in comprehensive criticality studies. Resources Policy, 59, 192-199.
23/04/2025	Chahir Zaki	Political, Economic and Social Implications of Critical Minerals	Boafo, J., Obodai, J., Stemn, E., & Nkrumah, P. N. (2024). The race for critical minerals in Africa: A blessing or another resource curse?. Resources Policy, 93, 105046.

Ch 1. Climate change and energy transition
Ch 2. Geopolitical risks and governance of natural resources
Ch 3. Is there a curse for energy transition metals ?
Ch 4. Renewable resources management : strategy and sustainability

Instructors

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