

# Politics and socio-technical change in environmental governance

SE 233 041 | 5 ECTS | 2 SST | SS 2022

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## General Info

First Session 08.03.2022, 12:00-14:00

Place Seminar room STS (C0602) NIG, 1010 Wien, Universitätsstraße 7, staircase II, 6th floor

## Contents, aims and methods of course

We live in a world full of uncertainties, with its moments of inertia or radical or incremental changes. What are the conceptual tools that help us think about transitions, whether they are political, environmental, economic or technical, and how to govern them?

As governing becomes a complex form of social experimentation, some technical projects cease to be considered the exclusive domain of engineers or natural scientists and are acknowledged by the actors involved as socio-technical projects, which need to be legitimized and recognized as acceptable by many actors (experts, decision-makers, civil society, citizens). What roles can science and technology studies (STS) play to highlight the eminently political character of these socio-technical changes?

The central theme of this course concerns the medium- and long-term aspects of transition(s) in environmental governance, and the related political issues. The course focuses on current issues in a particularly uncertain context that are, for example, out of the ordinary or controversial. Each session will start from one or more concrete topics, such as the governance of sanitary crises, nuclear energy, biotechnologies, or decaying infrastructures. Students will be invited to analyze and criticize the socio-technical changes operated over time by policy makers, experts, and civil society. These topics will be analyzed in light of coherent sets of STS contributions, asking the same questions each week: What would these authors think about this particular case? What would they invite us to pay attention to? What issues do they address?

## Registration

Online registration for this course is obligatory. If you decide not to participate in the course, you can sign off via u:space online until 20.03.2022 without negative consequences. In this case, please also inform the lecturer and the teaching assistants via e-mail.

## Course Reader

All reading is available on Moodle. However, if you would like to purchase a compiled printed version of the readings, then the reader for this class can be purchased from the teaching assistants' during their office hours. The cost of the reader is EUR 9,50.

## Course Assessment

To pass the seminar, students are expected to complete the following tasks:

- **actively participate** in classes (*skills assessed*: ability to provide constructive written feedback on other students' work and to orally develop ideas, intervene appropriately, and ask questions)
- provide **every week** an assignment (called 'response paper' - approximately 500 words) and send it two days before the course (*skills assessed*: ability to relate to authors seen in class to support a point or argument + ability to refer to the exact terminology used by the authors). **The first response paper is expected by March 15, 2022 (the first class will be an introduction to the course with no preparation required).**
- provide a final essay, i.e. a compilation of the response papers improved on peers' comments augmented by an introduction, a conclusion, a table of contents and a bibliography (of the authors actually used in the writing).

**The essay should be uploaded to Moodle by June 15th, 2022.**

*This course uses the plagiarism-detection service Turnitin for the final essay.*

## Grading Scheme

The grading scheme is based on a total of 100 points. These points will be awarded in relation to students' performance in meeting the course learning aims in the different obligatory tasks.

The maximum number of points to be acquired for each task is:

Active class participation (orally and in writing)	25 points / percent	assessed individually	feedback on request
Individual assignments (response paper week per week)	25 points / percent	assessed individually	feedback by lecturer and peers in class
Final essay	50 points / percent	assessed individually	feedback on request

## Minimum requirements

A minimum of 50 points is necessary to successfully complete the course. Failure to meet the attendance regulations, to deliver course assignments on time or to adhere to standards of academic work may result in a deduction of points.

## Grades

- 100-89 points Excellent (1)
- 88-76 points Good (2)
- 75-63 points Satisfactory (3)
- 62-50 points Sufficient (4)
- 49-0 points Unsatisfactory (5) (fail)

## **Attendance**

Presence and participation is compulsory. Absences of four hours at maximum are tolerated, provided that the lecturer is informed about the absence. Absences of more than eight hours in total cannot be compensated. In this case, or if the lecturer does not allow a student to compensate absences of more than four hours, the course cannot be completed and is graded as a 'fail' (5), unless there is a major and unpredictable reason for not being able to fulfill the attendance requirements on the student's side (e.g. a longer illness). In such a case, the student may be de-registered from the course without grading. It is the student's responsibility to communicate this in a timely manner, and to provide relevant evidence to their claims if necessary. Whether this exception applies is decided by the lecturer.

## **Important Grading Information**

If not explicitly noted otherwise, all requirements mentioned in the grading scheme and the attendance regulations must be met. If a required task is not fulfilled, e.g. a required assignment is not handed in or if the student does not meet the attendance requirements, this will be considered as a discontinuation of the course. In that case, the course will be graded as 'fail' (5), unless there is a major and unpredictable reason for not being able to fulfill the task on the student's side (e.g. a longer illness). In such a case, the student may be de-registered from the course without grading. It is the student's responsibility to communicate this in a timely manner, and to provide relevant evidence to their claims if necessary. Whether this exception applies is decided by the lecturer.

If any requirement of the course has been fulfilled by fraudulent means, be it for example by cheating at an exam, plagiarizing parts of a written assignment or by faking signatures on an attendance sheet, the student's participation in the course will be discontinued, the entire course will be graded as 'not assessed' and will be entered into the electronic exam record as 'fraudulently obtained'. Self-plagiarism, particularly re-using own work handed in for other courses, will be treated likewise.

# Seminar Schedule

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Date   Time	Topics
08.03.22 12:00-14:00	<p><b>1. Introduction to the Seminar</b></p> <p>Lecturers: Céline Parotte and Pierre Delvenne</p> <p>In this session we discuss how the course will work (e.g what exactly is a response paper) and the approach we will take.</p>
15.03.22 12:00-14:00	<p><b>2. The Politics of Sustainability Transitions</b></p> <p>Lecturers: Céline Parotte and Pierre Delvenne</p> <p>This session explores the power relations and pathways in sustainability transitions with a multi-level perspective.</p> <p><u>Obligatory readings:</u></p> <p>Kenis, A., Bono, F., &amp; Mathijs, E. (2016). Unravelling the (post-)political in Transition Management: Interrogating Pathways towards Sustainable Change. <i>Journal of Environmental Policy &amp; Planning</i>, 5, 568-584.</p> <p>Avelino, F., &amp; Wittmayer, J. (2016). Shifting Power Relations in Sustainability Transitions: A Multi-actor Perspective. <i>Journal of Environmental Policy &amp; Planning</i>, 5, 628-649.</p> <p><u>Optional reading:</u></p> <p>Geels, F.W., &amp; Schot, J. (2007). Typology of Sociotechnical Transition Pathways. <i>Research Policy</i>, 36(3), 399-417.</p> <p>Geels, F. W. (2014). Regime Resistance against Low-Carbon Transitions: Introducing Politics and Power into the Multi-Level Perspective. <i>Theory, Culture &amp; Society</i>, 31, 21-40.</p>
22.03.22 12:00-14:00	<p><b>3. Participation in Transition</b> Lecturer: Pierre Delvenne</p> <p>This session explores different ways to integrate publics into transition processes, and questions current shifts within participatory procedures (from participation in decision-making to participation in innovation-making).</p> <p><u>Obligatory reading:</u></p> <p>Engels, F., Wentland, A., &amp; Pfothenauer, S. (2019) Testing future societies? Developing a framework for test beds and living labs as instruments of innovation governance. <i>Research Policy</i>, 48(9).</p> <p>Delvenne, P. &amp; Macq, H. (2020), Breaking Bad with the Participatory Turn? Accelerating Time and Intensifying Value in Participatory Experiments. <i>Science as</i></p>

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*Culture*, 29(2), 245-268.

Optional reading:

Chilvers, J., & Longhurst, N. (2016). Participation in Transition(s): Reconceiving Public Engagements in Energy Transitions as Co-Produced, Emergent and Diverse. *Journal of Environmental Policy and Planning*, 18(5), 586-607.

Chilvers et al. (2018). Ecologies of Participation in Socio-Technical Change: The case of energy system transitions. *Energy Research & Social Science*, 42, 199-210

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29.03.22  
12:0 -14:00

#### **4. Participatory Innovation** Lecturer: Céline Parotte

In this session, the analytical concept of 'real-world experiment' (i.e., how a technology, innovation or method passes from laboratory-controlled conditions for testing in real-life settings) helps to understand links between 'participation' and 'innovation', mutually shaped through a testing process.

Obligatory reading:

Pallesen, T., & Jacobsen, P. (2021). Demonstrating a Flexible Electricity Consumer Keeping Sight of Sites in a Real-World Experiment. *Science as Culture*, 30(2), 172-191.

Spronck, V., Peters, P., & van de Werff, T. (2021). Empty Minds: Innovating Audience Participation in Symphonic Practice. *Science as Culture*, 30(2), 216-236.

Optional reading:

Macq, H., Parotte, C., & Delvenne, P. (2021). Exploring Frictions of Participatory Innovation between Sites and Scales. *Science as Culture*, 30(2), 161-171.

Tironi, M., & Valderrama, M. (2021). Experimenting with the Social Life of Homes: Sensor Governmentality and Its Frictions. *Science as Culture*, 30(2), 192-215.

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05.04.22  
12:00-14:00

#### **5. Imaginaries and Energy Transitions** Lecturer: Pierre Delvenne

This session explores the power of imagination for, and the role of imaginaries within, energy transition pathways.

Obligatory reading:

Hess, D., & Sovacool, B. (2020). Sociotechnical Matters: Reviewing and Integrating Science and Technology Studies with Energy Social Science. *Energy Research and Social Science*, 65, 1-17.

Jasanoff, S., & Simmet, H. (2021). Renewing the Future: Excluded Imaginaries in the Global Energy Transition. *Energy Research and Social Science*, 80, 1-10.

Optional reading:

Miller, C., Iles, A., & Jones, C. (2013). The Social Dimensions of Energy

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Transitions. *Science as Culture*, 22(2), 135-148.

Jasanoff, S. (2018). Just Transitions: a Humble Approach to Global Energy Futures. *Energy Research & Social Science*, 35, 1-14.

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26.04.22  
12:00-14:00

## **6. Nuclear Pasts and Futures** Lecturer: Céline Parotte

This session focuses on nuclear energy policies and their temporalities.

### Obligatory readings:

Högselius, P. (2022). Atomic Shocks of the Old: Putting Water at the Center of Nuclear Energy History. *Technology and Culture*, 63(1), 1-30.

Foley, T.J. (2021). Waiting for Waste: Nuclear Imagination and the Politics of Distant Futures in Finland. *Energy Research & Social Science*, 72. <https://doi.org/10.1016/j.erss.2020.101867>.

### Optional reading:

Bayer, F., & Felt, U. (2019). Embracing the 'Atomic Future' in Post-World War II Austria. *Technology and Culture*, 60(1), 165-191.

Ialenti, V. (2021). Drum Breach: Operational Temporalities, Error Politics and WIPP's Kitty Litter Nuclear Waste Accident. *Social Studies of Science* 51 (3), 364-391. <https://doi.org/10.1177/0306312720986609>.

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03.05.22  
12:00-14:00

## **7. Carbon Markets** Lecturer: Pierre Delvenne

This session focuses on the politics of carbon markets.

### Obligatory readings:

Turner, J. (2014). Counting Carbon: The Politics of Carbon Footprints and Climate Governance from the Individual to the Global. *Global Environmental Politics*, 14(1), 59-78.

Brill, S. (2021). A Story of its Own: Creating Singular Gift-Commodities for Voluntary Carbon Markets. *Journal of Cultural Economy*, 14(3), 332-343.

### Optional reading:

Mitchell, T. (2009). Carbon Democracy. *Economy and Society*, 38(3), 399-432.

Karhunmaa, K. (2016). Opening up Storylines of Co-benefits in Voluntary Carbon Markets: An Analysis of Household Energy Technology Projects in Developing Countries. *Energy Research and Social Science*, 14, 71-79.

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10.05.22

## **8. Ruination and Repair of Infrastructures** Lecturer: Céline

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12:00-14:00

Parotte

This session focuses on infrastructures through the notions of 'repair', 'maintenance' and 'ruination'.

Obligatory readings:

Gupta, A. (2018). The Future in Ruins: Thoughts on the Temporality of Infrastructure. In *The Promise of Infrastructure* (pp. 61-79). Duke University Press.

Graham, S, & Thrift, N. (2007). Out of Order: Understanding Repair and Maintenance. *Theory, Culture & Society*, 24(3), 1-25. <https://doi.org/10.1177/0263276407075954>.

Velho, R., & Ureta, S. (2019). Frail modernities: Latin American infrastructures between repair and ruination. *Tapuya: Latin American Science, Technology and Society*, 2(1), 428-41. <https://doi.org/10.1080/25729861.2019.1678920>.

Optional readings:

Denis, D. J. (2019). Why Do Maintenance and Repair Matter? In A. Blok, I. Fariás, & C. Roberts (Eds.), *The Routledge Companion to Actor-Network Theory* (pp. 283-93). Routledge.

Appel H., Anand, N., & Gupta A. (2018). Temporality, Politics and the Promise of Infrastructure. In *The Promise of Infrastructure* (pp. 1-38). Duke University Press.

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17.05.22  
12:00-14:00

**9. The Political Economy of Agriculture** Lecturer: Pierre

Delvenne

This session explores the political economy of different forms of agriculture and introduces the notions of 'gift', 'commodity', and 'asset'.

Obligatory readings:

Braun, V. (2021). Holding on to and Letting Go of Seed: Quasi-Commodities and the Passage of Property. *Journal of Cultural Economy*, 14(3), 306-318.

Delvenne, P. (2021). Suspended commodification: Assetization and the politics of 'silobolsa' in Argentine soybean agriculture. *Journal of Cultural Economy*, 14(3), 319-331.

Dobeson, A. (2021). The Politics of Value Revisited: Commodities, Assets, and the Gifts of Nature. *Journal of Cultural Economy*, 14(3), 344-356.

Optional readings:

Gras, C., & Hernandez, V. (2014). Agribusiness and Large-Scale Farming: Capitalist Globalisation in Argentine Agriculture. *Canadian Journal of Development Studies*, 35(3), 339-357.

Goulet, F. (2021). Characterizing Alignments in Socio-technical Transitions.

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24.05.22  
12:00-14:00

## **10. Phasing-out of Technologies** Lecturer: Céline Parotte

This session focuses on the politics of termination of technologies and its consequences.

### Obligatory readings:

Rinscheid, A., Rosenbloom, D., Markard, J., & Turnheim, B. (2021). From Terminating to Transforming: The Role of Phase-out in Sustainability Transitions. *Environmental Innovation and Societal Transitions*, 41, 21-27.

David, M., & Gross, M. (2019). Futurizing politics and the sustainability of real-world experiments: what role for innovation and exnovation in the German energy transition. *Sustainability Science*, 14(4), 991-1000.

### Optional readings:

Koretsky, Z., & van Lente, H. (2020). Technology Phase-out as Unravelling of Socio-technical Configurations: Cloud Seeding Case. *Environmental Innovation and Societal Transitions*, 37, 302-317.

Arne Heyen, D., Hermwille, L., & Wehnert, T. (2017). Out of the comfort zone! Governing the exnovation of unsustainable technologies and practices. *GAIA-Ecological Perspectives for Science and Society*, 26(4), 326-31.

Bardach, E. (1976). Policy Termination as a Political Process. *Policy Sciences*, 7(2), 123-31. <https://doi.org/10.1007/BF00143910>.

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31.05.22  
12:00-14:00

## **Concluding session**

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