

**Literature list (preliminary):**

The course literature is mainly based on recently published peer-reviewed scientific articles and assessment and governmental agencies reports. When working with their individual cases, students will collect and use other material of relevance. All articles and reports will be available through LISAM, folder Course Literature.

**Urban climate challenges** (particularly course intro and writing assignment 1)

Urban Climate Change Research Network (UCCRN). 2018. *The future we don't want: How climate change could impact the world's greatest cities.*

IPCC. 2018. *Summary for Urban Policymakers: What the IPCC Special Report on Global Warming of 1.5°C means for Cities.*

Rosenzweig, C, et al. 2018. *Pathways to urban transformation*, pp. 3-10, 17-20.

**Urban climate transitions and transformations** (particularly Lecture 1, Assignment 1 & 2)

European Environment Agency (EEA) 2017a. *Perspectives on transitions to sustainability.*

Chpt 1 (background on transitions), 2 (Transformations in socio-ecological systems), 3 (Socio-technical transitions to sustainability) and 5 (Actor-oriented perspectives on transitions and system innovation).

Rosenzweig, C, and Solecki, W. 2018. Action pathways for transforming cities. *Nature Climate Change* 8, 754-761.

Hölscher, K, et al. 2019. Tales of transforming cities: Transformative climate governance capacities in New York City, U.S. and Rotterdam, Netherlands. *Journal of Environmental Management* 231:843-857.

O'Brien. 2018. Is the 1.5°C target possible? Exploring the three spheres of transformation. *Current Opinion in Environmental Sustainability* 31:153-160.

Wolfram, M. 2016. Conceptualizing urban transformative capacity: A framework for research and policy. *Cities* 51: 121–130.

Kates, R.W., W.R. Travis, and T.J. Wilbanks. 2012. Transformational adaptation when incremental adaptations to climate change are insufficient. *Proceedings of the National Academy of Sciences* 109: 7156–7161.

*Articles that enhance understanding of urban transformation (for Assignment 1 & 2)*

Feola, G. 2015. Societal transformation in response to global environmental change: A review of emerging concepts. *Ambio* 44: 376–390. This review overviews transformation in eight different literatures such as transformative adaptation, deliberate transformations, regime shift, and socioecological transformation.

Heikkinen et al. 2019. Incremental, reformistic or transformational: What kind of change do C40 cities advocate to deal with climate change? *Journal of Environmental Policy and Planning* 21(1):90-103. This paper assesses the degree of change of 12 cities based on the adaptation and mitigation actions described in their policy documents.

Fazey et al. 2018. Transformation in a changing climate: a research agenda. *Climate and Development* 10(3):197-217. This review concerns what it means to transform and the dimensions, limitations and possibilities for transformation based on nine focal areas needing more research.

O'Brien, K., and L. Sygna. 2013. Responding to climate change: The three spheres of transformation In: *Proceedings of Transformation in a Changing Climate*, 19-21 June 2013, Oslo: University of Oslo. This paper presents transformation in four literatures and introduces the three spheres of transformation.

## **Governance, mainstreaming, policy integration (particularly Lecture 2 and assignments 1 & 2)**

- Runhaar, H, Wilk, B, Persson, Å, Uittenbroek, C, and Wamsler, C. 2018. Mainstreaming climate adaptation: taking stock about “what works” from empirical research worldwide. *Regional Environmental Change* 18, 1201-1210.
- Uittenbroek, C.J, Janssen-Jansen, L.B. and H.A.C. Runhaar (2013). Mainstreaming climate adaptation in urban planning: overcoming barriers, seizing opportunities and evaluating the results in two Dutch case studies. *Regional Environmental Change* 13: 399–411.
- Wamsler, C. et al. (2020) 'Environmental and Climate Policy Integration: Targeted Strategies for Overcoming Barriers to Nature-based solutions and Climate Change Adaptation'. *International Journal of Cleaner Production*, Vol. 247
- Adelle and Russel (2013). Climate Policy Integration: a case of Déjà Vu? *Environmental Policy and Governance* 23:1-12.
- Frantzeskaki, N (2019). Seven lessons for planning nature-based solutions in cities. *Environmental Science and Policy* 93:101-111.

## **Carbon budgets (particularly Lecture 3 and Case work mitigation)**

- Anderson, K, Broderick, J, and Stoddard, I. 2020. A factor of two: How the national plans of ‘climate progressive’ national fall far short of Paris-compliant pathways. *Climate Policy* DOI: 10.1080/14693062.2020.1728209.
- Anderson, K et al. N.D. *Carbon budget and pathways to a fossil-free future in Järfälla Municipality*. Research report commissioned by Järfälla Municipality.
- Manchester. 2019. *A Review of Manchester’s Carbon Budgets for Direct / Energy-only CO<sub>2</sub> Emissions*.
- Manchester. 2020. *Manchester Climate Change Framework 2020-25*.

## **Urban climate transition profiles and tools (particularly Lecture 3 and Case work)**

- Glaas, E., Hjerpe, M., Storbjörk, S., Neset, T-S., Bohman, A., Muthumanickam, P. and Johansson, J., 2019. Developing transformative capacity through systematic assessments and visualization of urban climate transitions. *Ambio* 48:515–528. + Supplementary Material.
- Rosenzweig, C, and Solecki, W. 2018. Action pathways for transforming cities. *Nature Climate Change* 8, 754-761. + Supplementary Material.

## **Urban Climate Vulnerability Analysis (particularly Lecture 4 and Case work)**

- Kumar, P, Geneletti, D, Nagendra, H. 2016. Spatial assessment of climate change vulnerability at city scale in India: A study in Bangalore, India. *Land Use Policy* 58:514-532.
- EEA. 2017b. *Climate change, impacts and vulnerability in Europe 2016: An indicator-based report*. European Environmental Agency, Luxembourg (Chapters: 5 Climate impacts on societies; 6.6 Vulnerability to climate change in urban regions; and 7.3 Climate change adaptation monitoring, reporting and evaluation).
- Tapia, C. et al. Profiling urban vulnerabilities to climate change: 2017. An indicator-based vulnerability assessment for European cities. *Ecological Indicators* 78:142–155. This paper uses a top-down method to compare climate vulnerability of European cities to key climate change impacts.
- Araos, M. et al. 2016. Climate change adaptation planning in large cities: A systematic global assessment. *Environmental Science & Policy* 66:375-382. This paper uses a top-down

approach to assess how far large cities have come in developing climate change adaptation policy

Few, R, Morchain, D, Spear, D, Mensah, A, Bendapudi, R. 2016. Transformation, adaptation and development: relating concepts to practice. *Palgrave Communications* 3:17092. This paper introduces a framework for categorizing forms of change according to mechanisms of change, target outcomes and object of change.

### **Sources for inspiration for the Case work**

ARC3.2 *Case Study Docking Station* (<https://uccrn.ei.columbia.edu/case-study-docking-station>). Through this link you can assess the over a hundred city case studies that was used in the Climate Change and Cities report of the UCCRN. If you click on the CSDS Dropbox link you get access to the case descriptions. An overview of city cases are stored on LISAM “Case Study Directory”.

C40 et al. 2019. *Cities100: 100 city projects making the case for climate action*. This report contains short descriptions of innovative climate action in sustainable mobility, building energy efficiency, sustainable finance, climate action planning, inclusive climate action, sustainable food systems, sustainable waste management, clean energy, adaptation and resilience, citizen engagement, air quality, and water management.

*Carbon Neutral Cities Alliance*. This website contains information about 25 leading global cities working to cut greenhouse gas emissions. <https://carbonneutralcities.org/cities/>

*C40 Knowledge Hub*. This website contains lots of material about cities climate action divided into different topics.

[https://www.c40knowledgehub.org/s/topiccatalog?language=en\\_US](https://www.c40knowledgehub.org/s/topiccatalog?language=en_US)

Oslo. 2019. *Climate Budget 2019*.

European Environment Agency. *Urban Adaptation Map Viewer*. This map-based web interface provides an overview of the current and future climate hazards facing the European cities. You can also create fact sheets for cities containing a range of climate, physical and socioeconomic data.

<https://climate-adapt.eea.europa.eu/knowledge/tools/urban-adaptation>

*Sources that examine different climate mitigation and adaptation topics:*

Haarstad, H. 2016. Where are urban low-carbon transitions governed? Conceptualizing the complex governance arrangements for mobility and urban form in Europe. *Cities* 54:4-10.

Romero-Lankao, P. 2012. Governing carbon and climate in the cities: An overview of policy and planning challenges and options. *European Planning Studies* 20: 7–26.

Kalbarczyk E. and Kalbarczyk R. 2020. Typology of Climate Change Adaptation Measures in Polish Cities up to 2030. *Land* 9:351. This article presents how a selection of Polish cities address climate change adaptation in local plans and documents.

Sturiale L., and Scuderi A. 2019. The Role of Green Infrastructures in Urban Planning for Climate Change Adaptation. *Climate* 7:119. This paper presents how green infrastructure can be used in cities to mitigate and adapt to climate change, and citizens attitudes towards such planning

Worku, H. 2017. Integrating climate change adaptation strategies in urban planning and landscape design of Addis Ababa City, Ethiopia: Using urban planning and landscape design to mitigate flooding, drought, and urban heat island effects. *Environmental Quality Management* 27:5–21. This paper presents various adaptation measures and suggest how they can be implemented in a case city