

# Climate Change: Intellectual Property Law and Technology Transfer

**Semester:** Spring Semester- FS 2024

**Root Number:** 489130

**ECTS:** 3 ECT – (25 hours)

**Lecturer:** Prof Thomas Cottier WTI, Prof Andreas Heinemann, University of Zurich, Dr Kamran Houshang Pour, IGE/IPI, Dr Zaker Amad, University of Göttingen/WTI

**Dates:** **July 8 to July 12, 2024**

**Room:** The is a hybrid course. The course will be held on-site at the World Trade Institute and online on Zoom. Online presence is highly recommended.

## **Audience:**

- Government officials; Embassy staff; people working for international organizations and NGOs, industry and in legal practice
- Master of Advanced Studies of International Law and Economics (MILE) Students
- Joint LL.M. / Diploma of Advanced Studies Trade and Investment Law (TRAIL+) Students - World Trade Institute / Faculty of Law, Unibe
- Certificate of Advanced Studies / Diploma of Advanced Studies in International Law and Economics (CAS ILE & DAS ILE) Students - World Trade Institute, Unibe
- Students from different universities across Switzerland

## **Course Description**

Transfer and dissemination of low-carbon technology are essential to achieve mitigation goals agreed upon at COP 26, 27 and 28 of the UNFCCC and the Paris Accord. It is equally essential to address climate change adaptation technologies, particularly in agriculture. Many of these technologies are protected by intellectual property rights. The course discusses the state of play in the transfer of technology, existing obligations and challenges.

To this effect, it offers introductory lectures on international intellectual property law and the economics of IP. It discusses commercial and concessionary licencing of technology. It offers an introduction to patent information and patent landscaping in cooperation with the Swiss Intellectual Property Institute (IPI). It develops a number of ideas under the principle of common concern of humankind as to how the transfer of technology can be strengthened and implemented in the context of emission trading, CBAM, investment promotion, export credits and tax reductions. Successful transfer of technology is absolutely essential to decarbonisation, the reduction of dependence on coal and gas also in the global South, and for reaching global goals of limiting warming to 1.50 or 20 C. The fact that it is of global benefit irrespective of the location and country of investment is a game changer which calls for new thinking and approaches in international law.

- To understand the relationship of intellectual property and dissemination and transfer of technology in the field of climate change mitigation, adaption and communication.
- To understand the rationale and motivation, sources, basic underlying principles, rights and obligations of different forms of the international intellectual property protection, with particular focus on the TRIPs Agreement and its operation within the WTO and PTAs.
- To understand the economic rationale of intellectual property and the need for incentives to technology dissemination and transfer of knowledge.
- To understand the role of fair use and compulsory licensing for technology dissemination
- To understand the rules relating to voluntary licensing of intellectual property and competition law and policy, in particular in the EU and the United States
- To understand the importance of patent searches and patent landscaping for transfer of technology and gain some practical experience in using search tools.
- Becoming familiar with the notions of climate/sustainable technologies, global public goods, and collective action problems.
- To learn about technology transfer mechanisms under the climate regime; challenges to their greater success, and the contributory role of international trade and WTO.
- To be able to frame the problems of climate technology transfer to developing countries as a problem of commons.
- To be able to identify the shortcomings of public international law to resolve the problems of commons, and the role of the evolving doctrine of Common Concern of Humankind.
- Rethinking the engagement of WTO at the Climate juncture. Examining and exploring new trade-related and investment-related pathways to spread low-carbon technologies.

- Identifying opportunities, understanding challenges, and assessing implications of domestic trade measures' (e.g. carbon pricing, export promotion) potential for low-carbon technology diffusion.

## Lecturers

### Professor Thomas Cottier

Dr Thomas Cottier, former Managing Director of the World Trade Institute, is Professor Emeritus of European and International Economic Law at the University of Bern. He published widely in the field of international economic law, with a particular focus on constitutional theory and intellectual property. He directed the national research programme on trade law and policy (NCCR International Trade Regulation: From Fragmentation to Coherence) located at the WTI from 2006-2014. He is an associate editor of several journals. He was a visiting professor at the Graduate Institute, Geneva, the Paris I Sorbonne, University of Barcelona, and regularly teaches at the Europa Institut Saarbrücken, Germany, at Wuhan University, China, at the University of Torino and more recently at the University of Ottawa, Canada. He was a member of the Swiss National Research Council from 1997-2004 and served on the board of the International Plant Genetic Resources Institute (IPGRI) Rome during the same period. He served the Baker & McKenzie law firm as Of Counsel from 1998 to 2005. He held several positions in the Swiss External Economic Affairs Department and was the Deputy-Director General of the Swiss Intellectual Property Office. Prof. Cottier has a long-standing involvement in GATT / WTO activities. He served on the Swiss negotiating team of the Uruguay Round from 1986 to 1993, first as Chief negotiator on dispute settlement and subsidies for Switzerland and subsequently as Chief negotiator on TRIPs. He has served as a member or chair of several GATT and WTO panels and currently serves on the roster of 10 appeal arbitration panelists of the MPIA.

### Jayashree Watal

Jayashree Watal is Adjunct Professor at Georgetown Law and Visiting Professor at the National Law University, Delhi. She was Counsellor in the Intellectual Property Division of the World Trade Organization from February 2001 to July 2019, where she has dealt *inter alia* with negotiations on TRIPS and public health, the Economics of Intellectual Property, and Technology Transfer. She has more than twenty two years of experience in government in India, of which ten years was devoted to policy, diplomacy, research and administration on intellectual property rights, including representing India in the TRIPS negotiations. She has researched and published on issues related to intellectual property rights, including a book *Intellectual Property Rights in the WTO and Developing Countries* (Oxford University Press, India and Kluwer Law International, 2001). She was a Visiting Scholar at the Center for International Development at Harvard University (2000); at the Peterson Institute for International Economics, Washington DC (Oct. 1998-August 2000); and at the George Washington University Law School, Washington, D.C. (1997- 2000). She worked in the Government of India, Ministry of Commerce as Director, Trade Policy Division, New Delhi (1995-1998). She has a post-master's degree in trade law (DESS) from the University of Paris-V; M.A. in Economics from Gokhale Institute for Politics and Economics, Pune, India; and a B.A. from Fergusson College, Pune, India.]

## Andreas Heinemann

Andreas Heinemann, Diplom-Ökonom, DIAP (ENA, Paris), is Professor of Commercial, Economic and European Law at the University of Zurich and permanent visiting professor at the University of Lausanne. After studies in economics and law he was awarded the Diplôme Supérieur de Droit Comparé from the Faculté Internationale de Droit Comparé in Strasbourg, and the Diplôme International d'Administration Publique (DIAP) from the Ecole Nationale d'Administration (ENA), then in Paris. He passed his bar exam in Berlin and completed his PhD and Habilitation at the University of Munich's faculty of law. His research focuses on Swiss, European and International Economic Law with a special emphasis on competition and intellectual property law. He is a member of the board of the Europa Institute at the University of Zurich and a member of the Bureau of the OECD Competition Committee. He was a member of the Swiss Competition Commission since 2011, and its president from 2018/2022. More information is available at:

[www.ius.uzh.ch/de/staff/professorships/alphabetical/heinemann.html](http://www.ius.uzh.ch/de/staff/professorships/alphabetical/heinemann.html)

## Kamran Houshang Pour

Dr. Kamran Houshang Pour is patent expert and IP trainer at Swiss Institute of Intellectual Property (IPI) in Bern. After obtaining a PhD in physics at the EPF Lausanne he worked as product manager at Nortel Networks in Zurich, where he conducted yield improvement projects for the existing products, qualified new products and introduced them into the market. He later cofounded a consulting entity providing technical supports specially for young start-ups with the quality management as well as with the technical questions. After a master in statistics at the Université de Neuchâtel, he returned as Post Doc to EPFL (TRANSP-OR) conducting an externally financed project on modelling customer behaviour. Since 2008, he is working at IPI, where as patent expert he conducts different type of patent searches, such as validity or freedom-to-operate searches, and examines patent applications in his field of knowledge. As IP trainer, he gives lectures on divers intellectual property subjects at the universities and in the companies. Kamran also obtained his Master in IP Law and Management at CEIPI, Strasbourg in 2019.

## Zaker Ahmed

Zaker, a graduate of the MILE 13 class, obtained his Dr. iur. degree from the WTI in 2020. He also holds LLB and LLM degrees from the University of Chittagong in Bangladesh.

Zaker's doctoral research, financed by a Swiss National Science Foundation (SNF) grant to the project 'Towards a Principle of Common Concern in Global Law', dealt with the issue of WTO law and trade policy reform for low-carbon technology diffusion. Its particular focus was on the crucial importance of dismantling market barriers and offering incentives to improve clean technology access and uptake across borders. It also showcased the role of the emerging doctrine and principle of Common Concern of Humankind in that context.

Currently, Zaker is a Postdoctoral researcher at the Georg-August University in Göttingen, financed by the Alexander von Humboldt Foundation. He also works as an Associate Professor of Law in the University of Chittagong. He took up short-term research and consultancy assignments in the past, including work for the EU funded Bangladesh Trade Policy Support Program

## Learning Objectives

- To understand the relationship of intellectual property and dissemination and transfer of technology in the field of climate change mitigation, adaption and communication.
- To understand the rationale and motivation, sources, basic underlying principles, rights and obligations of different forms of the international intellectual property protection, with particular focus on the TRIPs Agreement and its operation within the WTO and PTAs.
- To understand the economic rationale of intellectual property and the need for incentives for technology dissemination and transfer of knowledge.
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- Becoming familiar with the notions of climate/sustainable technologies, global public goods, and collective action problems.
- To learn about technology transfer mechanisms under the climate regime; challenges to their greater success, and the contributory role of international trade and WTO.
- To be able to frame the problems of climate technology transfer to developing countries as a problem of commons.
- To be able to identify the shortcomings of public international law to resolve the problems of commons, and the role of the evolving doctrine of Common Concern of Humankind.
- Rethinking the engagement of WTO at the Climate juncture. Examining and exploring new trade-related and investment-related pathways to spread low-carbon technologies.
- Identifying opportunities, understanding challenges, and assessing implications of domestic trade measures' (e.g. carbon pricing, export promotion) potential for low carbon technology diffusion.
- Exploring and discussing incentives for transfer and dissemination of technology in particular export insurance schemes, subsidies, and tax breaks.

## Assessment

- Students' knowledge will be assessed on the basis of a take home exam which needs to be completed on an individual basis.
- Take-home assignment made available on 12 July 2024, 16:00 and to be submitted on 13 July no later than 20:00 (CET) to [masters@wti.org](mailto:masters@wti.org)

## Course Overview

Date	Day	Time	Topic / lecturer
8 July	Monday	10:00 12:00	Intellectual Property: Principles/Forms of rights / Thomas Cottier
		13:00 15:00	IP Scope of Rights, exhaustion of rights, voluntary licensing, fair use and Compulsory Licensing / Thomas Cottier
9 July	Tuesday	10:00 12:00	The Economics of IPRs: Market Failures, Incentives/ J. Watal
		13:00 15:00	The Economics of Transfer of Technology and dissemination / J. Watal
10 July	Wednesday	10:00 12:00	Intellectual Property and Competition Law The Commercial Licensing of Intellectual Property Rights / Andreas Heinemann
		13:00 15:00	Patent Search and landscaping in sustainable technologies / Karman Houshang Pour
11 July	Thursday	10:00 12:00	Transfer of Sustainable Technology in Climate policy Needs and State of Play / Zaker Ahmad
		13:00 15:00	New Foundations: The Principle of Common Concern of Humankind and International Cooperation Obligations under UNFCCC and PA /Zaker Ahmad
12 July	Friday	10:00 12:00	Transfer of Sustainable Technology /Zaker Amad,
		13:00 15:00	Investment promotion, export promotion, tax breaks /Thomas Cottier and Zaker Ahmad
13 July	Saturday	Due: 20:00	Case study/exam (take-home assessment)

**MONDAY, JULY 8, 2024****Lecturer: Thomas Cottier****Subject**

- Intellectual Property: Sources and Principles
- The scope of rights

**Topics**

- Introduction
- Agreements
- MFN/NT
- IP Principles
- Forms of Rights

**Compulsory Reading Material**

- Keith E. Maskus, Ruth L. Okediji, International Technology Transfer to Address Climate Change: Risks, Opportunities and Policy Options, ICTSD Global Platform on Climate Change, Trade Policies and Sustainable Energy, Geneva 2010
- Thomas Cottier, Principles and Main Sources of International Intellectual Property Law, Teaching Materials, September 2020
- Thomas Cottier, The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) in: The World Trade Organization: Legal, Economic and Critical Analysis (Macroy et al eds. 2005)

**Recommended Reading Materials**

- Thomas Cottier, Krista Nadakvularen Schefer (eds), Elgar Encyclopaedia of Public International Law, Cheltenham, Northampton 2017, pp. 516-537
- Thomas Cottier, Embedding Intellectual Property in International Law, in: P. Roffe, X. Seuba (eds.), Current Alliances in International Intellectual Property Law: The Emergence and Impact of Mega-Regionals, ICTSD/CEIPI 15-45 (2017)
- Thomas Cottier, Intellectual Property and Mega-Regionals Trade Agreements: Progress and Opportunities Missed, in: S Griller, W Obwexer, Erich Vranes (Eds.), Mega-Regional Trade Agreements: CETA, TTIP and TiSA 151- 174 (Oxford University Press 2017)



TUESDAY, JULY 9, 2024

**Lecturer: : Jayashree Watal****Subject**

- The Economics of Intellectual Property

**Topics**

- Market Failures
- Incentives to creation of information and technology
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**Mandatory Reading Materials**

- WTO: The Economic of TRIPS, a primer available at [https://www.wto.org/english/tratop\\_e/trips\\_e/trips\\_econprimer1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/trips_econprimer1_e.pdf)
- Keith E. Maskus, The International Intellectual Property System from an Economist's Perspective, in: Henning Grosse Ruse-Khan, Axel Metzger (eds.), Intellectual Property Ordering Beyond Borders 3-27 (Cambridge University Press 2022)
- WTO: Changing the Face of IP Trade and Policy Making, available at [https://www.wto.org/english/thewto\\_e/20y\\_e/trips\\_brochure2015\\_e.pdf](https://www.wto.org/english/thewto_e/20y_e/trips_brochure2015_e.pdf)
- Intellectual Property Rights and Global Policy Challenges', Chapter 5 in *Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21<sup>st</sup> Century*, pp. 233-251; 270-279 (Peterson Institute for International Economics, 2012), full text available at [https://www.piie.com/publications/chapters\\_preview/5072/05iie5072.pdf](https://www.piie.com/publications/chapters_preview/5072/05iie5072.pdf)

**Recommended Reading Materials**

- Maskus, Keith. E: 'Big Stakes in Selling Knowledge', Chapter 1 in *Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21<sup>st</sup> Century*, Peterson Institute for International Economics, 2012, full text available at [https://www.piie.com/publications/chapters\\_preview/5072/01iie5072.pdf](https://www.piie.com/publications/chapters_preview/5072/01iie5072.pdf)
- WIPO: *The Economics of Intellectual Property*, Chapter 1, available at [http://www.wipo.int/export/sites/www/freepublications/en/economics/1012/wipo\\_pub\\_1012.pdf](http://www.wipo.int/export/sites/www/freepublications/en/economics/1012/wipo_pub_1012.pdf)
- Penrose, Edith T: *The Economics of the International Patent System*, The Johns Hopkins Press, 1951.



**WEDNESDAY, JULY 10, 2024****Lecturer: Andreas Heinemann****Subject**

- Intellectual Property and Competition law

**Topics**

- The commercial licensing of Intellectual Property Rights
- US
- EU/CH

**Mandatory Reading Materials**

- OECD: Executive Summary Licensing of IP Rights and Competition Law available at [https://one.oecd.org/document/DAF/COMP/M\(2019\)1/ANN6/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2019)1/ANN6/FINAL/en/pdf)

**Recommended Reading Materials**

- OECD: Background Note on Licensing of IP Rights and Competition Law available at [https://one.oecd.org/document/DAF/COMP\(2019\)3/en/pdf](https://one.oecd.org/document/DAF/COMP(2019)3/en/pdf)
- USA: Antitrust Guidelines for the Licensing of Intellectual Property available at <https://www.justice.gov/atr/IPguidelines/download>
- EU: Block Exemption Regulation Transfer of Technology available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0316>

**Lecturer: Kamran Housang Pour****Subject**

- Patent Search and landscaping in sustainable technologies

**Topics**

- Mitigation
- Adaptation
- Case Study

**Mandatory Reading**

- WIPO Guidelines for Preparing Patent Landscape Reports  
[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_946.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_946.pdf)
- WIPO Implementing the SDGs in national Intellectual Property systems  
<https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2023-10-en-intellectual-property-offices-and-sustainable-innovation.pdf>
- OECD Green patents  
<https://www.oecd.org/env/indicators-modelling-outlooks/green-patents.htm>

### Recommended Reading Materials

- Patent landscape report- Hydrogen fuel cells in transpaortation  
<https://www.wipo.int/edocs/pubdocs/en/wipo-pub-1076-en-patent-landscape-report-hydrogen-fuel-cells-in-transportation.pdf>
- <https://www.wipo.int/classifications/ipc/green-inventory/home>

THURSDAY, JULY 11, 2024

**Lecturer: Zaker Ahmad****Subject**

- Transfer of Sustainable Technology in Climate Policy

**Topics**

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- UNFCCC/PA /TRIPS Regulatory Foundations
- Existent Funds and Programs
- Role of Economic Policy to Address Technology Market Failures

**Subject**

- Transfer of Sustainable Technology as a Common Concern of Humankind

**Topics**

- Context and Implications of the Common Concern Doctrine
- Obligations under UNFCCC and PA
- Obligations under the TRIPS Agreement (Art. 66:2)

**Compulsory Reading Materials**

- Ahmad, Z., 'Rules and Facts on Low-Carbon Technology Diffusion' in *WTO Law and Trade Policy Reform for Low-Carbon Technology Diffusion* (Brill 2021) (open access).
- United Nations Framework Convention on Climate Change (UNFCCC), *Fourth synthesis of technology needs identified by Parties not included in Annex I to the Convention: Report by the Secretariat*, FCCC/SBI/2020/INF.1 (2020) available at [https://unfccc.int/sites/default/files/resource/sbi2020\\_inf.01.pdf](https://unfccc.int/sites/default/files/resource/sbi2020_inf.01.pdf)
- Cottier, T., 'The Principle of Common Concern of Humankind', in Thomas Cottier and Zaker Ahmad (eds.), *The Prospects of Common Concern of Humankind in International law*, (Cambridge University Press 2021).
- Ahmad, Z., 'Trade-Related Measures to Spread Low-Carbon Technologies', in Thomas Cottier and Zaker Ahmad (eds.), *The Prospects of Common Concern of Humankind in International law*, (Cambridge University Press 2021).

**Recommended Reading Materials**

- Ahmad, Z., Chapters 1 and 3, in *WTO Law and Trade Policy Reform for Low-Carbon Technology Diffusion* (Brill 2021) (open access).
- Traerup, S., L Greersen and C Kundsén, 'Mapping Barriers and Enabling Environments in Technology Needs Assessments, Nationally Determined Contributions, and Technical Assistance of the Climate Technology Centre and Network' (2018) Background paper TEC/2018/17/4.

- de Coninck, H., and others, 'Strengthening and Implementing the Global Response' in Valerie Masson-Delmotte and others (eds), Special Report: Global Warming of 1.5°C (World Meteorological Organization (WMO) 2018) <http://www.ipcc.ch/report/sr15/>
- Dechezleprêtre, A., and others, 'Invention and Transfer of Climate Change–Mitigation Technologies: A Global Analysis' (2011) 5 Review of Environmental Economics and Policy 109
- Lybecker, K.M., and Sebastian Lohse, 'Innovation and Diffusion of Green Technologies' (WIPO 2015) Global Challenges Report <[http://www.wipo.int/edocs/pubdocs/en/wipo\\_rep\\_gc\\_2015\\_1.pdf](http://www.wipo.int/edocs/pubdocs/en/wipo_rep_gc_2015_1.pdf)> accessed 13 September 2016.
- World Trade Organization, 'World Trade Report 2022: Climate Change and International Trade', (2022) pp. 9-23.
- Abbott, K.W. 'The Transnational Regime Complex for Climate Change' (2012) 30 Environment and Planning C: Government and Policy 571.
- Cottier, T., and others, 'The Principle of Common Concern and Climate Change' (2014) 52 Archiv des Völkerrechts 293.
- Kaul, I., 'Global Public Goods: Explaining Their Underprovision' (2012) 15 Journal of International Economic Law 729.
- Keohane, R.O., and David G Victor, 'The Regime Complex for Climate Change' (2011) 9 Perspectives on Politics 7.
- World Trade Organization, 'World Trade Report 2022: Climate Change and International Trade', (2022) pp. 39-48, 65-74.
- [UNCTAD, Technology and Innovation Report 2023 \(United Nations 2023\)](#)

FRIDAY, JULY 12, 2023

**Lecturer: Zaker Ahmad and Thomas Cottier****Subject**

- Transfer of Sustainable Technology in Climate Policy

**Topics**

- Easing Patent Protection
- Emission Pricing coupled with transfer of technology (CBAM)
- Export promotion and insurance
- Investment promotion,
- Subsidies and tax incentives

**Mandatory Reading Materials**

- Abdel-Latif, A., 'Intellectual Property Rights and the Transfer of Climate Change Technologies: Issues, Challenges, and Way Forward' (2015) 15 Climate Policy 103.
- Watal, J. and Leticia Caminero, 'Least-Developed Countries, Transfer of Technology and the TRIPS Agreement' (World Trade Organization 2018) WTO Staff Working Paper ERSD-2018-01.
- Ahmad, Z., Chapter 4, in *WTO Law and Trade Policy Reform for Low-Carbon Technology Diffusion* (Brill 2021).
- Bernard M. Hoekman, Keith E. Maskus, Kamal Saggi, *Transfer of Technology to Developing Countries: Unilateral and Multilateral Policy Options*, World Bank Policy Research Working Paper 3332 (June 2004)

**Recommended Reading Materials**

- Thomas Cottier, 'Renewable Energy and Process and Production Methods' (International Centre for Trade and Sustainable Development (ICTSD), World Economic Forum (WEF) 2015).
- Rajamani, L., 'Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics' 65 International and Comparative Law Quarterly 493 (2016).
- Scott, J. and L Rajamani, 'EU Climate Change Unilateralism' 23 European Journal of International Law 469 (2012).
- World Trade Organization, 'World Trade Report 2022: Climate Change and International Trade', (2022) pp. 70-71, 80-97.
- Holzer, K., 'Process and Production Methods (PPMs)' in Thomas Cottier and others (eds), *Elgar encyclopedia of international economic law* (Edward Elgar Publishing 2017).
- Bartels, L., 'The Chapeau of the General Exceptions in the WTO GATT and GATS Agreements: A Reconstruction' (2015) 109 American Journal of International Law 95.
- Dobson, N.L., '(Re)Framing Responsibility? Assessing the Division of Burdens Under the EU Carbon Border Adjustment Mechanism' (2022) 18 Utrecht Law Review 162.
- Vidigal, G., and Ingo Venzke, 'Of False Conflicts and Real Challenges: Trade Agreements, Climate Clubs, and Border Adjustments' (2022) 116 AJIL Unbound

202.

- Regulation (EU) 2023/\_\_\_ of the European Parliament and of the Council of Establishing a Border Carbon Adjustment Mechanism,  
<https://data.consilium.europa.eu/doc/document/PE-7-2023-INIT/en/pdf> )
- [OECD Investment Tax Incentive Database: 2022 Update: Tax Incentives for sustainable development \(OECD 2022\)](#)

**SATURDAY, JULY 13, 2024****Take-home assessment due at July 13, at 20:00 (CET)**