

## Master Thesis

**Topic:** Politico-economic, institutional and socio-economic drivers of climate policies – a machine learning approach.

**Description:**

The goal of limiting the increase in global average temperature below 2°C (or even 1.5°C), as targeted in the Paris Agreement, requires significant emission reduction efforts. These can only be achieved if national governments successfully implement stringent climate policies. However, the ambition of such policies and the NDCs that are part of the Paris Agreement varies immensely across countries. Therefore, the question arises what barriers hinder national governments from successfully implementing climate policies. This thesis aims to identify the drivers that should be targeted to promote the support of strong dedicated national policies mitigating climate change. The goal is to identify the most important predictors that drive successful climate policy implementation using Machine Learning methods, e.g. decision trees and random forests. The focus is on politico-economic, institutional and socio-economic factors such as lobbying, good governance, education, inequality, population density, etc.

**Prerequisites:** Basic knowledge on Machine Learning methods, programming skills (R/Python)

**Desirable:** Background in economics

**Selected references:**

Dasgupta, S. and E. De Cian (2018). The influence of institutions, governance, and public opinion on the environment: Synthesized findings from applied econometrics studies. *Energy Research & Social Science* 43, 77-95.

Steves, F., D. Treisman, and A. Teytelboyn (2011). The political economy of climate change policy in the transition region. *The low carbon transition*.

**Data sources:** United Nations Environment Programme-Global Resource Information Database, BP Statistical Review of World Energy, Freedom in the World Data and Resources, Gall-up Survey 2010 on Environmental Awareness, etc.

**Supervision of thesis:** The thesis will be jointly supervised by:

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**Application:**

Please send a short motivation letter (max. 1 page) and your CV to: [angelika.vogt@hu-berlin.de](mailto:angelika.vogt@hu-berlin.de)