



LEMMA

Laboratoire d'économie
mathématique et de
microéconomie appliquée

SÉMINAIRE

CLIMATE POLICIES, INTERGENERATIONAL INEQUALITIES AND THE DEMOGRAPHIC TRANSITION

07 novembre 2023

**Lemma - Salle Maurice Desplas 4 rue
Blaise Desgoffe 75006 PARIS**

Séminaire du Lemma

Le [LEMMA](#) organise un séminaire, sur le thème « **Climate policies, intergenerational inequalities and the demographic transition** » le mardi 7 novembre à 11h.

Mathieu LEDUC (*Paris School of Economics*)

Résumé :

We develop and calibrate an analytic climate-economy model in which individuals exhibit life cycle behavior and which allows us to introduce demographic trends. Generations are overlapped with realistic average lengths of life, work, and retirement. Energy use creates emissions, which accumulate in the atmosphere and are harmful to production. The government faces multiple tasks at once: mitigating the pollution externality, providing redistribution between generations, and financing an exogenous spending. We analyze the consequences of environmental tax reform on intergenerational inequalities. We specifically investigate how the tax system should adapt, taking into account not only labor income and lump-sum transfers, but also debt policy and social security in the face of demographic change. The steady state of the model is solved analytically.



Calibration exercises describe the transitional dynamic path.