

PROGRAMME
**49^{ème} SÉANCE DU SÉMINAIRE DE RECHERCHES EN ÉCONOMIE DE L'ÉNERGIE DE
PARIS-SCIENCES-LETTRES**

LA NOUVELLE ÉCONOMIE PÉTROLIÈRE SOUS CONTRAINTE CARBONE

Mercredi 27 Mai 2020, de 16h30 à 18h30

Compte tenu des circonstances actuelles, cette séance se tiendra « à distance »

Nous vous transmettrons les liens de connexion 48h avant le séminaire.

Le Séminaire de Recherches en Économie de l'Énergie de Paris-Sciences-Lettres est conjointement organisé par le CERNA (MINES PARIS TECH), le CGEMP (Université Paris-Dauphine), la Chaire European Electricity Markets (CEEM (Université Paris-Dauphine)), et i3 (l'Institut interdisciplinaire de l'innovation), membres de PSL. Il est animé par François LÉVÊQUE (CERNA et MINES PARIS TECH), Dominique FINON (CEEM et CNRS-CIRED) et Patrice GEOFFRON (Directeur du CGEMP, Université Paris-Dauphine).

Étienne Billette de Villemeur (Université de Lille, LEM)

Frugals, Militants and the Oil Market

The oil market has often been modeled as an oligopoly where the strategic players are producers. With climate change, a new sort of game appeared, where environmental militants play a significant role by opposing some projects, to contain oil production. At the same time, consumers continue to use increasing amounts of oil, independently of oil price fluctuations. Should we oppose oil projects, reduce demand or both? We investigate in this paper the double prisoner's dilemma in which individuals find themselves, with respect to oil consumption and their environmental stance towards the oil industry. We find that the collective outcome of such game is clearly better when a frugal behaviour is adopted, without being militant. The Nash equilibrium, resulting from the individual strategies, leads by contrast to the worst possible outcome: high prices, high consumption and high environmental (negative) impact. An effective environmental action should avoid opposing oil supply sources (a costly militant act) and help consumers becoming more frugal.

Article co-écrit avec Pierre-Olivier Pineau (HEC Montréal) publié in : *Games in Management Science*, Springer, 2019.

Waldemar Marz (IFO, ifo Institut)

Petrodollar Recycling, Oil Monopoly, and Carbon Taxes

Besides affecting oil rents, climate policy can have far-reaching capital market implications. We identify a new general equilibrium transmission channel of climate policy on oil extraction by an oil monopolist who accounts for the influence of oil supply on returns on own petrodollar-financed capital assets. Climate-policy-induced adjustments in capital asset holdings by the exporting country lead to postponement of extraction under a wide range of reasonable parameter settings: for the reference calibration present extraction drops by 1.28 percent for an ad valorem tax corresponding to 100\$ per ton of carbon, while it increases by 0.52 percent for a competitive oil market. This contrasts with the literature on supply-side effects of climate policy which neglects these capital market implications. Concerns about carbon taxes arising from unintended climate-damaging supply reactions are alleviated.

Article co-écrit avec Johannes Pfeiffer, *Journal of Environmental Economics and Management*, March 2020.

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