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Axe de recherche

Macroéconomie internationale, finance, matières premières et économétrie financière

Thème(s)

Energie; Matières premières; Asie

HAL: [Lien](#)

Présentation

Emmanuel HACHE est Docteur en Sciences économiques de l'Université Paris I et habilité à diriger des recherches de l'Université Paris-Nanterre. Il est également titulaire d'un DEA en Economie et sociologie du développement de l'Institut d'Étude du Développement Économique et Social (IEDES) de l'Université Paris 1 Panthéon-Sorbonne. Il est également diplômé d'un Master 2 de l'Institut de Relations Internationales et Stratégiques (IRIS) en Géopolitique et Prospective. Après une expérience d'environ trois ans en Inde durant ses études doctorales, il est devenu Chargé de recherche en économie, spécialisé sur les marchés de matières premières, au sein du Centre d'Observation Économique (COE). En 2006, il rejoint IFP School en tant que Professeur associé et devient responsable des programmes Petroleum Economics et Management et de l'Executive Master in Energy Management entre 2007 et 2013. Il travaille depuis 2014 en tant que manager de projets dans le Département Économie & Évaluation Environnementale à IFP Energies Nouvelles sur les questions de perspectives énergétiques. Il enseigne la prospective, l'économie de l'énergie et des matières premières dans de nombreux établissements. Il est directeur de recherche associé à l'IRIS et chercheur associé à Economix (EconomiX-CNRS, University of Paris Nanterre). Il est le porteur du projet GENERATE (Géopolitique des Energies Renouvelables et Analyse Prospective de la Transition Énergétique), qui a reçu un financement de l'Agence Nationale de la Recherche (ANR) en 2017.

https://www.researchgate.net/profile/Emmanuel_Hache

Documents de travail

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01/2024 - Evaluating criticality of strategic metals: Are the Herfindahl–Hirschman Index and usual concentration thresholds still relevant?

Pauline Bucciarelli, Emmanuel Hache, Valérie Mignon

07/2019 - Determinants of investments in solar photovoltaic: Do oil prices really matter?

Margaux Escoffier, Emmanuel Hache, Valérie Mignon, Anthony Paris

10/2018 - The nexus between climate negotiations and low-carbon innovation: a geopolitics of renewable energy patents

Clément Bonnet, Samuel Carcanague, Emmanuel Hache, Gondia Sokhna Seck, Marine Simoën

09/2018 - Renewable energy source integration into power networks, research trends and policy implications: A bibliometric and stakeholders survey analysis

Emmanuel Hache, Angélique Palle

Publications

HAL: [Lien](#)

2025 - Pauline Bucciarelli, Emmanuel Hache, Valérie Mignon. Evaluating criticality of strategic metals: Are the Herfindahl-Hirschman Index and usual concentration thresholds still relevant?. Energy Economics, 2025, 143, pp.108208. (10.1016/j.eneco.2025.108208). (hal-04924186)
<https://hal.science/hal-04924186v1>

2025 - Thibaut Feix, Emmanuel Hache. Cumulative Energy Demand and Global Warming Potential of metals and minerals production: Assessment, projections and mitigation options. Resources Policy, 2025, 102, pp.105516. (10.1016/j.resourpol.2025.105516). (hal-04989235)
<https://ifp.hal.science/hal-04989235v1>

2025 - Romain Capliez, Carl Grekou, Emmanuel Hache, Valérie Mignon. Lithium-Ion Batteries: Dynamic Mapping of the Value Chain and Perspectives. 2025. (hal-04910581)
<https://hal.science/hal-04910581v1>

2025 - Romain Capliez, Carl Grekou, Emmanuel Hache, Valérie Mignon. Électrification des transports : les batteries lithium-ion au cœur d'enjeux géopolitiques majeurs. La revue de l'énergie, 2025, 676, pp.11-21. (hal-04974751)
<https://hal.science/hal-04974751v1>

2024 - Emmanuel Hache, Candice Roche. Les métaux : reflets ou catalyseurs de la fragmentation mondiale ?. La revue internationale et stratégique, 2024, 136 (Hiver), pp.79-90. (10.3917/ris.136.0079). (hal-04929199)
<https://ifp.hal.science/hal-04929199v1>

2024 - Emmanuel Hache. Matières premières : rareté, rivalités, dépassement. La revue internationale et stratégique, 2024, 136 (Hiver), pp.29-38. (hal-04916582)
<https://ifp.hal.science/hal-04916582v1>

2024 - Emmanuel Hache, Émilie Normand, Candice Roche. Exploiter les fonds marins : une nouvelle frontière géopolitique ?. La revue internationale et stratégique, 2024, 136 (Hiver), pp.173-183. (hal-04916623)
<https://ifp.hal.science/hal-04916623v1>

2024 - Romain Capliez, Carl Grekou, Emmanuel Hache, Valérie Mignon. Batteries lithium-ion : cartographie dynamique de la chaîne de valeur et perspectives. 2024. (hal-04720793)
<https://hal.science/hal-04720793v1>

2024 - Emmanuel Hache, Emilie Normand. Quelle stratégie européenne sur les matériaux critiques ?. L'Économie politique, 2024, 101 (1), pp.52-62. (hal-04885464)
<https://ifp.hal.science/hal-04885464v1>

2024 - Romain Capliez, Carl Grekou, Emmanuel Hache, Valérie Mignon. Matières premières critiques : vers l'autonomie stratégique européenne ?. La Découverte. L'économie mondiale 2025, La Découverte, 2024, Repères. (hal-04688287)
<https://hal.science/hal-04688287v1>

2024 - Pauline Bucciarelli, Emmanuel Hache, Valérie Mignon. Evaluating criticality of strategic metals: Are the Herfindahl-Hirschman Index and usual concentration thresholds still relevant?. 2024. (hal-04452384)

<https://hal.science/hal-04452384v1>

2023 - Gondia Sokhna Seck, Emmanuel Hache, Vincent d'Herbemont, Mathis Guyot, Louis-Marie Malbec. Hydrogen Development in Europe : Estimating Material Consumption in Net Zero Emissions Scenarios. International Economics, 2023, 176, pp.100457. (10.1016/j.inteco.2023.100457). (hal-04253822)

<https://ifp.hal.science/hal-04253822v1>

2023 - Emmanuel Hache. Une nouvelle ère d'insécurité énergétique mondiale. L'Année stratégique 2024, Dunod, pp.318 - 326, 2023. (hal-04389542)

<https://hal.science/hal-04389542v1>

2022 - Carl Grekou, Emmanuel Hache, Frédéric Lantz, Olivier Massol, Valérie Mignon, et al.. La dépendance de l'Europe au gaz russe : état des lieux et perspectives. Revue d'économie financière, 2022, 147 (3), pp.227-242. (10.3917/ecofi.147.0227). (hal-03955439)

<https://centralesupelec.hal.science/hal-03955439v1>

2022 - Gondia Seck, Emmanuel Hache, Jerome Sabathier, Fernanda Guedes, Gunhild Reigstad, et al.. Hydrogen and the Decarbonization of the Energy System in Europe in 2050 : A Detailed Model-Based Analysis. Renewable and Sustainable Energy Reviews, 2022, 167, pp.112779. (10.1016/j.rser.2022.112779). (hal-03777266)

<https://ifp.hal.science/hal-03777266v1>

2022 - Tanguy Bonnet, Carl Grekou, Emmanuel Hache, Valérie Mignon. Métaux stratégiques : la clairvoyance chinoise. La Lettre du CEPPII, 2022, 428. (hal-04906218)

<https://hal.science/hal-04906218v1>

2022 - Carl Grekou, Emmanuel Hache, Frédéric Lantz, Olivier Massol, Valérie Mignon, et al.. Guerre en Ukraine : bouleversements et défis énergétiques en Europe. 2022. (hal-04317265)

<https://centralesupelec.hal.science/hal-04317265v1>

2022 - Gondia Sokhna Seck, Emmanuel Hache, Charlène Barnet. Potential Bottleneck in the Energy Transition: the Case of Cobalt in an Accelerating Electro-Mobility World. Resources Policy, 2022, 75, pp.102516. (10.1016/j.resourpol.2021.102516). (hal-03563296)

<https://ifp.hal.science/hal-03563296v1>

2022 - Emmanuel Hache. La guerre en Ukraine rebat les cartes de la géopolitique de l'énergie. L'Année Stratégique 2023, Dunod, 2022. (hal-03753447)

<https://hal.science/hal-03753447v1>

2022 - Emmanuel Hache. Géopolitique des Energies, Tensions d'un monde en mutation. Eyrolles, 2022. (hal-03825829)

<https://hal.science/hal-03825829v1>

2021 - Margaux Escoffier, Emmanuel Hache, Valérie Mignon, Anthony Paris. Determinants of solar photovoltaic deployment in the electricity mix : Do oil prices really matter?. Energy Economics, 2021, 97, pp.105024. (10.1016/j.eneco.2020.105024). (hal-03339134)

<https://ifp.hal.science/hal-03339134v1>

2021 - Valérie Mignon, Margaux Escoffier, Anthony Paris, Emmanuel Hache. Determinants of solar photovoltaic deployment in the electricity mix: Do oil prices really matter?. Energy Economics, 2021, 97. (hal-02995105)

<https://hal.science/hal-02995105v1>

2021 - Emmanuel Hache. Un monde d'après sur les marchés énergétiques ?. L'Année Stratégique

2022, Dunod, 2021. (hal-03753449)
<https://hal.science/hal-03753449v1>

2020 - Gondia Sokhna Seck, Emmanuel Hache, Clement Bonnet, Marine Simoën, Samuel Carcanague. Copper at the crossroads : Assessment of the interactions between low-carbon energy transition and supply limitations. Resources, Conservation and Recycling, 2020, 163, pp.105072. (10.1016/j.resconrec.2020.105072). (hal-03118509)
<https://ifp.hal.science/hal-03118509v1>

2020 - Emmanuel Hache, Marine Simoën, Gondia Sokhna Seck, Clement Bonnet, Aymen Jabberi, et al.. The impact of future power generation on cement demand: an international and regional assessment based on climate scenarios. International Economics, 2020, 163, pp.114-133. (10.1016/j.inteco.2020.05.002). (hal-02978242)
<https://ifp.hal.science/hal-02978242v1>

2020 - Anne Bouter, Emmanuel Hache, Cyprien Ternel, Sandra Beauchet. Comparative environmental life cycle assessment of several powertrain types for cars and buses in France for two driving cycles: "worldwide harmonized light vehicle test procedure" cycle and urban cycle. International Journal of Life Cycle Assessment, 2020, 25 (8), pp.1545-1565. (10.1007/s11367-020-01756-2). (hal-03114175)
<https://ifp.hal.science/hal-03114175v1>

2020 - Emmanuel Hache. Le pétrole au cœur des préoccupations énergétiques mondiales. L'Année Stratégique 2021, Dunod, 2020. (hal-03753451)
<https://hal.science/hal-03753451v1>

2019 - Clément Bonnet, Emmanuel Hache, Gondia Sokhna Seck, Marine Simoen, Samuel Carcanague. Who's winning the low-carbon innovation race? An assessment of countries' leadership in renewable energy technologies. International Economics, 2019, 160, pp.31-42. (10.1016/j.inteco.2019.07.006). (hal-02417569)
<https://ifp.hal.science/hal-02417569v1>

2019 - Emmanuel Hache, Gondia Sokhna Seck, Marine Simoen, Clement Bonnet, Samuel Carcanague. Critical raw materials and transportation sector electrification: A detailed bottom-up analysis in world transport. Applied Energy, 2019, 240, pp.6-25. (10.1016/j.apenergy.2019.02.057). (hal-02061459)
<https://ifp.hal.science/hal-02061459v1>

2019 - Valérie Mignon, Margaux Escoffier, Emmanuel Hache, Anthony Paris. Determinants of solar photovoltaic deployment in the electricity mix: Do oil prices really matter?. 42nd International Association for Energy Economics (IAEE) Annual Conference, 2019, Montréal, Unknown Region. (hal-04436178)
<https://hal.science/hal-04436178v1>

2019 - Margaux Escoffier, Emmanuel Hache, Valérie Mignon, Anthony Paris. Determinants of investments in solar photovoltaic: Do oil prices really matter?. 2019. (hal-04141866)
<https://hal.science/hal-04141866v1>

2019 - Emmanuel Hache, Angélique Palle. Renewable energy source integration into power networks, research trends and policy implications: A bibliometric and research actors survey analysis. Energy Policy, 2019, 124, pp.23 - 35. (10.1016/j.enpol.2018.09.036). (hal-01929420)
<https://ifp.hal.science/hal-01929420v1>

2019 - Emmanuel Hache. Les dimensions énergétiques des routes de la Soie. Les nouvelles routes de la Soie. Géopolitique d'un grand projet chinois, Presse de l'Université du Québec, 2019.

(hal-03753458)

<https://hal.science/hal-03753458v1>

2019 - Pierre Hacquard, Marine Simoën, Emmanuel Hache. Is the oil industry able to support a world that consumes 105 million barrels of oil per day in 2025?. Oil & Gas Science and Technology - Revue d'IFP Energies nouvelles, 2019, 74, pp.88. (10.2516/ogst/2019061). (hal-02415060)

<https://ifp.hal.science/hal-02415060v1>

2018 - Gabriel B. Gomes, Emmanuel Hache, Valerie Mignon, Anthony Paris. On the current account-biofuels link in emerging and developing countries: do oil price fluctuations matter? *. Energy Policy, 2018, 116, pp.60 - 67. (10.1016/j.enpol.2018.01.054). (hal-01882204)

<https://ifp.hal.science/hal-01882204v1>

2018 - Emmanuel Hache, Angélique Palle. Renewable energy source integration into power networks, research trends and policy implications: A bibliometric and stakeholders survey analysis. 2018. (hal-04141688)

<https://hal.science/hal-04141688v1>

2018 - Emmanuel Hache, Anthony Paris. Market Efficiency and Optimal Hedging Strategy for the US Ethanol Market. 2018. (hal-04141799)

<https://hal.science/hal-04141799v1>

2018 - Clément Bonnet, Samuel Carcanague, Emmanuel Hache, Gondia Sokhna Seck, Marine Simoën. The nexus between climate negotiations and low-carbon innovation: a geopolitics of renewable energy patents. 2018. (hal-04141680)

<https://hal.science/hal-04141680v1>

2017 - Emmanuel Hache, Déborah Leboullenger, Valérie Mignon. Beyond average energy consumption in the French residential housing market: A household classification approach. Energy Policy, 2017, 107, pp.82-95. (10.1016/j.enpol.2017.04.038). (hal-01586597)

<https://ifp.hal.science/hal-01586597v1>

2017 - Anthony Paris, Emmanuel Hache. Efficiency Market Hypothesis and Optimal Hedge Ratio of the Ethanol Market. 4ème Conférence annuelle de la FAERE , 2017, Nancy, Unknown Region. (hal-01647583)

<https://hal.science/hal-01647583v1>

2017 - Gabriel Gomes, Emmanuel Hache, Valérie Mignon, Anthony Paris. On the current account - biofuels link in emerging and developing countries: do oil price fluctuations matter?. 2017. (hal-04141639)

<https://hal.science/hal-04141639v1>

2017 - Valérie Mignon, Emmanuel Hache, Déborah Leboullenger. Beyond average energy consumption in the French residential market: A household classification approach. Ulteřia !, 2017, 107, pp.82-95. (hal-01549810)

<https://hal.science/hal-01549810v1>

2017 - Anthony Paris, Emmanuel Hache. Efficiency and Optimal Hedge Ratio of the Ethanol Market in the US. 15th European Conference of IAEE , 2017, Vienna, Unknown Region. (hal-01647564)

<https://hal.science/hal-01647564v1>

2016 - Claire Nicolas, Stéphane Tchung-Ming, Emmanuel Hache. Energy transition in transportation under cost uncertainty, an assessment based on robust optimization. 2016. (hal-02475943)

<https://ifp.hal.science/hal-02475943v1>

- 2016 - Vincent Brémond, Emmanuel Hache, Tovonony Razafindrabe. The Oil Price and Exchange Rate Relationship Revisited: A time-varying VAR parameter approach. The European Journal of Comparative Economics, 2016, 13 (1), pp.97-131. (halshs-01683809)
<https://shs.hal.science/halshs-01683809v1>
- 2016 - Emmanuel Hache, Déborah Leboullenger, Valérie Mignon. Beyond average energy consumption in the French residential housing market: A household classification approach. 2016. (hal-02475511)
<https://ifp.hal.science/hal-02475511v1>
- 2016 - Claire Nicolas, Stéphane Tchung-Ming, Emmanuel Hache. Energy transition in transportation under cost uncertainty- an assessment based on robust optimization. 2016. (hal-04141579)
<https://hal.science/hal-04141579v1>
- 2016 - Emmanuel Hache, Déborah Leboullenger, Valérie Mignon. Beyond average energy consumption in the French residential housing market: A household classification approach. 12th ICABE International Conference, 2016, Nanterre, France. (hal-01386101)
<https://hal.parisnanterre.fr/hal-01386101v1>
- 2016 - Emmanuel Hache, Déborah Leboullenger, Valérie Mignon. Beyond average energy consumption in the French residential housing market: A household classification approach. 39th IAEE International Conference, 2016, Bergen, Sweden. (hal-01386095)
<https://hal.parisnanterre.fr/hal-01386095v1>
- 2016 - Emmanuel Hache, Déborah Leboullenger, Valérie Mignon. Beyond average energy consumption in the French residential housing market: A household classification approach. 2016. (hal-04141605)
<https://hal.science/hal-04141605v1>
- 2015 - Vincent Brémond, Emmanuel Hache, Tovonony Razafindrabe. On the link between oil price and exchange rate : A time-varying VAR parameter approach. 2015. (hal-03206684)
<https://ifp.hal.science/hal-03206684v1>
- 2014 - Vincent Brémond, Emmanuel Hache, Marc Joëts. On the link between oil and commodity prices: A panel VAR approach. Energy Studies Review, 2014, 20. (hal-01410606)
<https://hal.parisnanterre.fr/hal-01410606v1>
- 2013 - Vincent Brémond, Emmanuel Hache, Marc Joëts. On the link between oil and commodity prices: a panel VAR approach. 2013. (hal-02474855)
<https://ifp.hal.science/hal-02474855v1>
- 2012 - Vincent Brémond, Emmanuel Hache, Valérie Mignon. Does OPEC still exist as a cartel? An empirical investigation. Energy Economics, 2012, 34, pp.125 - 131. (hal-01385802)
<https://hal.parisnanterre.fr/hal-01385802v1>
- 2011 - Vincent Brémond, Emmanuel Hache, Valerie Mignon. Does OPEC still exist as a cartel ? An empirical investigation. 2011. (hal-02469630)
<https://ifp.hal.science/hal-02469630v1>
- 2011 - Vincent Brémond, Emmanuel Hache, Valérie Mignon. Does OPEC still exist as a cartel? An empirical investigation. 2011. (hal-04141014)
<https://hal.science/hal-04141014v1>