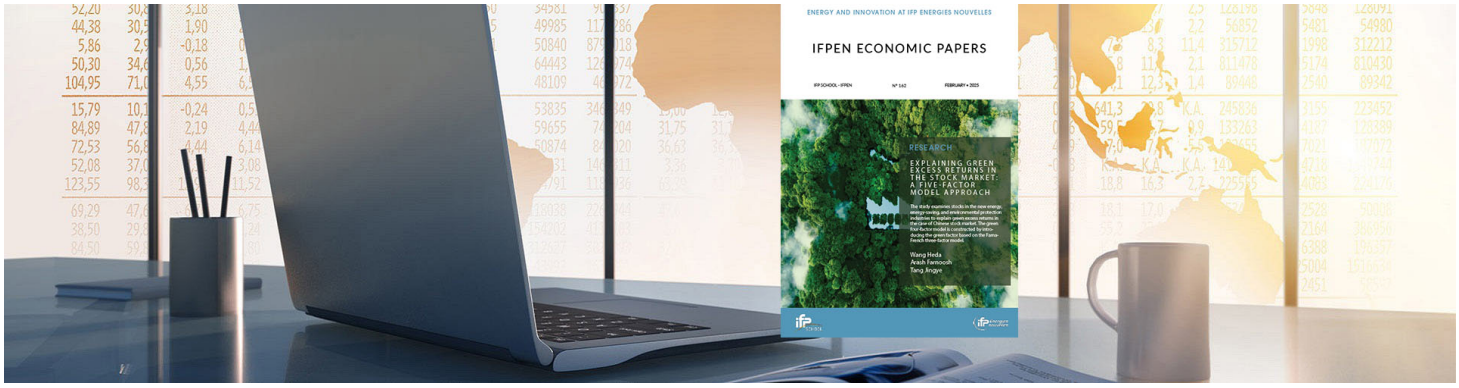

Rédigé le 14 février 2025 20 minutes de lecture

Regards économiques

Enjeux et prospective

Économie

La collection “IFPEN Economic Papers” – anciennement « Les Cahiers de l’Économie », depuis 1990 – a pour objectif de présenter des travaux réalisés à IFP Energies nouvelles et IFP School qui traitent d’économie, de finance ou de gestion de la transition énergétique.

Explaining Green Excess Returns in the Stock Market: A Five-Factor Model Approach

N° 162 – February 2025 [RECHERCHE]

Wang Heda, Arash Farnoosh and Tang Jingyea

The study examines stocks in the new energy, energy-saving, and environmental protection industries to explain green excess returns in the case of Chinese stock market. The green four-factor model is constructed by introducing the green factor based on the Fama-French three-factor model. Empirical results show that this model better explains the risk-return of green concept stocks compared to the three-factor model by verifying the existence of green excess returns, though its explanatory power still needs improvement. Therefore, the study uses stock turnover rate and the firm's return on investment as indicators of the sentiment factor and the efficiency factor, respectively, from the perspectives of green investment sentiment in behavioral finance and positive externalities in microeconomics. The green five-factor model is then constructed by introducing the green sentiment factor and green efficiency factor. Empirical results show that the green five-factor model better interprets the risk-return of green concept stocks compared to the three-factor model and the green four-factor model, with the green sentiment factor and green efficiency factor having a significant positive effect on the return of green concept stocks.

Lire la suite / Télécharger le numéro *(PDF - 6.7 Mo)*

The Performance of China Green Funds around the COVID-19: A Comparative Study with Black Funds and Conventional Funds

N° 161 – December 2024 [RECHERCHE]

Wang Heda, Arash Farnoosh and Wang Zhen

The analysis covers 102 green funds, 64 black funds, and 434 conventional funds in China, comparing their performance over 93 sample intervals from November 2015 to July 2023. The performance of green and black funds is significantly higher than that of conventional funds over the entire sample period, primarily due to the greater impact of COVID-19 on the industries in which conventional funds invest. Notably, green funds outperform black funds. When dividing the sample period at the onset of COVID-19, it is found that conventional funds generally outperform green and black funds before the pandemic, while green and black funds significantly outperform conventional funds during COVID-19. After COVID-19, as the state promotes economic recovery, conventional funds again outperform green and black funds. Overall, the performance of green funds gradually improves over time, with increased investment in large-cap and growth stocks.

Lire la suite / Télécharger le numéro *(PDF - 4.1 Mo)*

The rise and fall of Neoliberalism: an ecological and regulationist analysis of France (1960-2022)

N° 160 – June 2024 [RECHERCHE]

Alban Pellegris and Victor Court

In this article, we enrich Regulation Theory with metrics from ecological economics: thermodynamic efficiency, exosomatic metabolic rate and the weight of energy expenditure relative to GDP. Then, we use this framework to analyze French capitalism since 1960.

Lire la suite / Télécharger le numéro *(PDF - 3.4 Mo)*

Decarbonizing China’s iron and steel industry: policy incentives and technological paths

N° 159 – Avril 2024 [RECHERCHE]

Yang Liu, Yuchen Zhang, Xiaoli Zhao, Rongda Zhang and Arash Farnoosh

This article develops a mixed integer programming model to explore how the Chinese iron and steel industry can efficiently manage the simultaneous phasing out of blast furnaces and promotion of advanced steelmaking technologies.

Lire la suite / Télécharger le numéro *(PDF - 4 Mo)*

Synergistic effect analysis of policy instruments in environmental governance considering the social context

N° 158 – Mars 2024 [RECHERCHE]

Yang Liu, Yuchen Zhang, Arash Farnoosh, Ruoran Ma and Xiaoli Zhao

This article assess the synergistic effects between policy instrument combinations and social contexts in the field of environmental governance in 29 province-level regions in China, from 2006 to 2018.

Lire la suite / Télécharger le numéro *(PDF - 6 Mo)*

ORION - Oil and renewables refining industry optimization and synergies

N° 157 – Février 2024 [RECHERCHE]

Clarissa Bergman-Fonte, Fernanda P. D. C. Guedes, Frédéric Lantz, Pedro R. R. Rochedo and Alexandre Szklo.

This article introduces ORION, a GAMS-based Mixed Integer Linear Programming model designed to optimize the refining sector. ORION addresses not only conventional refinery operations, but also focuses on novel opportunities for integrating the sector into a context of carbon intensity reduction.

Lire la suite / Télécharger le numéro *(PDF - 4.1 Mo)*

Decarbonizing aviation with sustainable aviation fuels: myths and realities of the roadmaps to net zero by 2050

N° 156 – Octobre 2023 [RECHERCHE]
Paul Bardon, Olivier Massol

This paper analyzes the factors influencing present and future sustainable aviation fuels sustainable aviation fuels SAF) market availability – namely resources, technologies, and costs – and attempts to assess the credibility of current SAF development scenarios.

Lire la suite / Télécharger le numéro *(PDF - 3.4 Mo)*

HERA – Hydrogen economics and infrastructure optimization model

N° 155 – Juin 2023 [RECHERCHE]
Gabriela Nascimento da Silva, Frédéric Lantz, Pedro Rochedo, Alexandre Szklo

The article develops an optimization model of the whole hydrogen value chain, from the H_2 production (including water electrolysis and steam reform with and without carbon capture) up to the H_2 delivery to consumers via road transportation or pipelines.

Lire la suite / Télécharger le numéro *(PDF - 2.1 Mo)*

EROI minimum et croissance économique

N° 154 – Mai 2023 [RECHERCHE]
Victor Court, Floriane Fizaine
Après avoir rappelé les concepts d'énergie nette et d'EROI, simples et intuitifs en apparence, nous détaillerons les raisons pour lesquelles l'utilisation de ces notions est difficile en pratique. Nous reviendrons ensuite sur les résultats les plus importants en ce qui concerne le EROI minimum requis pour observer une croissance de l'activité dans une économie moderne. Nous discuterons enfin des notions de croissance, de prospérité et de leurs liens avec l'EROI et la sobriété.

Lire la suite / Télécharger le numéro *(PDF - 1 Mo)*

Modeling CO2 pipeline systems: An analytical lens for CCS regulation

N° 153 – Avril 2023 [RECHERCHE]
Adrien Nicolle, Diego Cedreros, Olivier Massol, Emma Jagu Schippers
Carbon Capture and Storage (CCS) is regularly depicted as a crucial technology to reduce the social cost of achieving carbon neutrality. However, its deployment critically depends on the installation of CO_2 infrastructures. As the regulatory procedures governing their provision are yet to be clarified, the purpose of this paper is to assess the social and environmental impacts of such regulations. We show how the engineering equations of a CO_2 pipeline implicitly define a Cobb-Douglas production function.

Lire la suite / Télécharger le numéro *(PDF - 1.1 Mo)*

Is Power-to-Gas always beneficial? The implications of ownership structure

N° 152 – Février 2023 [RECHERCHE]

Camille Megy, Olivier Massol

Power-to-gas (PtG), a technology that converts electricity into hydrogen, is expected to become a core component of future low-carbon energy systems. While its economics and performance as a sector coupling technique have been well studied in the context of perfectly competitive energy markets, the distortions caused by the presence of large strategic players with a multi-market presence have received little attention. In this paper, we examine them by specifying a partial equilibrium model that provides a stylized representation of the interactions among the natural gas, electricity, and hydrogen markets.

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2022

European Economic impacts of cutting energy imports from Russia: a computable general equilibrium analysis

N° 151 – Novembre 2022 [RECHERCHE]

Sigit Perdana, Marc Vielle, Maxime Schenckery

The recent economic sanctions against Russia can jeopardize the sustainability of the European Union's (EU) energy supply. Despite the EU's strong commitment to stringent abatement targets, fossil fuels still play a significant role in the EU energy policy. Furthermore, high dependency on Russian energy supplies underlines the vulnerability of the EU energy security. Using a global computable general equilibrium model, we prove that the current EU embargo on coal and oil imported from Russia will have adverse supply effects, substantially increasing energy prices and welfare costs for the EU resident.

Lire la suite / Télécharger le numéro *(PDF - 6.4 Mo)*

Non-linear distance decay effects of clean energy facilities in housing rental and sale markets: Evidence from hydrogen refueling stations

N° 150 – Juin 2022 [RECHERCHE]

Shuya Wu, Arash Farnoosh, Yingdan Mei

While promoting green and low-carbon transition, clean energy facilities also have externalities, which may lead to opposition and economic losses. There is evidence that the impact of facilities decreases with distance, but existing research make strict assumption on its functional form. In this research work we explore the non-linear relationship between housing transaction prices and distances to the nearest facility without predefined functions combined with spatial smoothing in the hedonic pricing model by taking China as a case-study.

Lire la suite / Télécharger le numéro *(PDF - 2.6 Mo)*

Certificats d’Economies d’Energie : ne pas oublier les fondamentaux !

Numéro 149 - Mai 2022 [ANALYSE]

Benoit Ferres, Jacques Millery, Maxime Schenckery

Les Certificats d’Economies d’Energie, CEE font régulièrement l’objet de nombreux débats. Nous proposons ici un retour aux fondamentaux de l’Article 7 européen pour comprendre la logique des attentes qui sont à leur origine, et ainsi mieux cerner l’ensemble des dimensions à l’aune desquelles leur impact devrait être évalué.

Lire la suite / Télécharger le numéro *(PDF - 2.6 Mo)*

Electricity Distribution Systems in Europe: An Overview of Contemporary Regulatory Challenges

Numéro 148 - Avril 2022 [ANALYSE]

Pedro H. Perico E Santos, Olivier Massol

In Europe, a significant adaptation of the existing power distribution sector is necessary to support the transition toward low-carbon energy systems and facilitate the massive deployment of low-carbon distributed power technologies. This report first examines the current organization of that industry and highlights the country-specific and diverse nature of the industry structures and the institutional organizations governing the distribution sector.

Lire la suite / Télécharger le numéro *(PDF - 3.2 Mo)*

Unlocking CO2 infrastructure deployment: the impact of carbon removal accounting

N° 147 – Février 2022 [RECHERCHE]

Emma Jagu, Olivier Massol

This paper examines the interactions between carbon removal accounting (which determines financial incentives for BECCS) and optimal CO_2 infrastructure deployment by asking how certification affects the feasibility of BECCS projects.

Lire la suite / Télécharger le numéro *(PDF - 3.7 Mo)*

The impact of Electric Vehicle fleets on the European electricity markets: evidences from the German passenger car fleet and power generation sector

N° 146 – Janvier 2022 [RECHERCHE]

Maria Juliana Suarez Forero, Frédéric Lantz, Pierre Nicolas, Patrice Geoffron

The rapidly increasing participation of renewable energies (REn) into the electric mix, clearly traces the trends for the decarbonization goals in the European Union. Under the priority sale conditions established by governments, the commercialization of REn plays an important role in the consolidation of market prices, which are on a decreasing trend with large fluctuations that reduce the profit in the power sector and therefore, the interest of potential investors.

Lire la suite / Télécharger le numéro *(PDF -5.2 Mo)*

2021

A Game-theory Analysis of Electric Vehicle Adoption in Beijing under License Plate Control Policy

Numéro 145 – Septembre 2021

Lijing Zhu, Jingzhou Wang, Arash Farnoosh, Xunzhang Pan

This paper proposes a two-level Stackelberg game which portrays the interaction between vehicle applicants and the government to quantify the optimal EV license plates under the LPC policy in Beijing.

Lire la suite / Télécharger le numéro *(PDF - 1.6 Mo)*

Does something change in the oil market with the COVID-19 crisis?

Numéro 144 – Juillet 2021
Dan Zhang, Frédéric Lantz, Arash Farnoosh

This paper examines the price discovery of three international crude oil futures markets (WTI, Brent, INE) before and after the outbreak of the COVID-19 with the application of information share and component share model.

Lire la suite / Télécharger le numéro *(PDF - 3.9 Mo)*

Short-term electricity price forecasting models comparative analysis:

Machine Learning vs. Econometrics

Numéro 143 – Mai 2021
Antoine Ferre, Guillaume de Certaines, Jérôme Cazelles, Tancrède Cohet, Arash Farnoosh, Frédéric Lantz

This paper gives an overview of several models applied to forecast the day-ahead prices of the German electricity market between 2014 and 2015 using hourly wind and solar productions as well as load.

Lire la suite / Télécharger le numéro *(PDF - 5.8 Mo)*

Estimating discrete choice experiments: theoretical fundamentals

Numéro 142 – Avril 2021
Benoît Chèze, Charles Collet, and Anthony Paris

This working paper overviews theoretical foundations and estimators derived from econometric models used to analyze stated choices proposed in Discrete Choice Experiment (DCE) surveys.

Lire la suite / Télécharger le numéro *(PDF - 2 Mo)*

Cinquième période à venir : les Certificats d'Economies d'Energie, catalyseurs du couple Reprise / Transition Ecologique ?

Numéro 141 - Mars 2021 [ÉTUDE & SYNTHÈSE]
Maxime Schenckery, Jacques Millery

Les travaux sur la forme que devra prendre la 5ème période de CEE ont continué, suscitant bien des

débats, et aboutissant à une première série de propositions rendue publique début février 2021.

Lire la suite / Télécharger le numéro *(PDF - 1 Mo)*

Trajectory Based Robust Optimization Applied to the Case of Electricity Facilities Investment with Significant Penetration of Renewables

Numéro 140 – Février 2021

Pierre Cayet, Arash Farnoosh

As large scale penetration of renewables into electric systems requires increasing flexibility from dispatchable production units, the electricity mix must be designed in order to address brutal variations of residual demand. Inspired from the philosophy of Distributionally Robust Optimization (DRO), we propose a trajectory ambiguity set including residual demand trajectories verifying both support and variability criterion using ambiguous quantile information.

Lire la suite / Télécharger le numéro *(PDF - 4.2 Mo)*

Quantifying virtual water scarcity risk transfers of energy system in China

Numéro 139 – Janvier 2021

Xuebing Yao, Xu Tang, Arash Farnoosh, Cuiyang Feng

Using multi-regional input-output analysis, this study estimates the virtual flows ad virtual water scarcity risk transfers driven by interprovincial energy consumption in China. Results could provide

reference value for policymakers to develop new energy strategies and manage water resources sustainably.

Lire la suite / Télécharger le numéro *(PDF - 3,8 Mo)*

2020

How are day-ahead prices informative for predicting the next day's consumption of natural gas?

Numéro 138 – Décembre 2020

Arthur Thomas, Olivier Massol, Benoît Sévi

Using data from France, this paper investigates, for the first time, whether the next day's consumption of natural gas can be accurately forecast using a simple model that solely incorporates the information contained in dayahead market data.

Lire la suite / Télécharger le numéro *(PDF - 1,8 Mo)*

Dynamics of biofuel prices on the European market

Numéro 137 – Novembre 2020
Francis Declerck, Jean-Pierre Indjehagopian, Frédéric Lantz

This paper aims at explaining the major drivers of biodiesel market prices by examining agricultural resource prices and gasoil prices for automotive fuels in the context of the EU environmental policy.

Lire la suite / Télécharger le numéro *(PDF - 4 Mo)*

Certificats : marier reprise économique et transition écologique

Numéro 136 - Septembre 2020 [ÉTUDE & SYNTHÈSE]
Maxime Schenckery, Jacques Millery

Dans une économie durement touchée par la Covid-19, comment remettre en fonction des acteurs de base de l'économie sur notre territoire à travers des activités porteuses de sens liées à la transition énergétique, dans un contexte de crise où en plus un prix du pétrole bas n'encourage pas cette transition ?
L'utilisation du mécanisme des certificats permet-il de résoudre ce paradoxe, en mariant support à la relance économique et transition énergétique ?

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Building infrastructures for Fossil- and Bio-energy with Carbon Capture and Storage: insights from a cooperative game-theoretic perspective

Numéro 135 - Août 2020

Emma Jagu, **Olivier Massol**

This paper examines the deployment of a shared CO_2 transportation infrastructure needed to support the combined emergence of bio-energy with carbon capture and storage (BECCS) and fossil energy with carbon capture and storage (CCS).

Lire la suite / Télécharger le numéro *(PDF - 1,9 Mo)*

Energy, Knowledge, and Demo-Economic Development in the Long Run

Numéro 134 – Mai 2020

Emmanuel Bovari, **Victor Court**

In this article we provide a quantitative analysis of the role of energy in long-term growth, accounting for the interaction between human capital accumulation and technological change. To do so, we design a unified growth model featuring fertility and educational choices, energy resources extraction, directed technical change, and endogenous general purpose technologies diffusion.

Lire la suite / Télécharger le numéro *(PDF – 3,5 Mo)*

A systematic review of the energy and climate impacts of teleworking

Numéro 133 – Mars 2020
Andrew Hook, Victor Court, Benjamin Sovacool, Steve Sorrell

This review assesses how changes in working practices are associated with different forms of teleworking, including the use of different ICTs, various commuting/travel options, and different working spaces such as offices, cafes, libraries, and homes.

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What can be learned from the free destination option in the LNG imbroglio?

Numéro 132 – Janvier 2020
Amina Baba, Anna Creti, Olivier Massol

This article examine the profitability of flexible routing by LNG cargoes for a single supplier taking into account uncertainty in the medium-term dynamics of gas markets. Results portend a substantial source of profit for the industry and reveal future movements of vessels.

Lire la suite / Télécharger le numéro *(PDF – 3 Mo)*

2019

A Representation of the World Population Dynamics for Integrated Assessments Models

Numéro 131 – Novembre 2019
Victor Court, Florent McIsaac

Using the gross world product (GWP) as the only exogenous input variable, we design a model able to accurately reproduce the global population dynamics over the period 1950–2015. We then add to our model an excess mortality function associated with climate change.

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Rate-of-return regulation to unlock natural gas pipeline deployment

Numéro 130 – Septembre 2019
Florian Perrotton, Olivier Massol

Focusing on the situation in Mozambique, we examine whether the adoption of rate-of-return (RoR) regulation can reconcile the public authorities' ambition for the construction of a large national pipeline system and the preference of foreign private investors for smaller infrastructure that are solely intended to supply a few creditworthy industrial sites.

Lire la suite / Télécharger le numéro *(PDF - 5.1 Mo)*

Copper at the Crossroads

Numéro 129 – Juillet 2019
Clément Bonnet, Gondia Seck, Emmanuel Hache, Marine Simoën, Samuel Carcanague

The aim of this article is to assess the impact of copper availability on the energy transition and to answer the question whether copper could become critical to the power and the transport sectors due to the high copper content of low-carbon technologies compared to conventional technologies.

Lire la suite / Télécharger le numéro *(PDF - 7.7 Mo)*

Understanding farmers' reluctance to reduce pesticide use: A choice experiment

Numéro 128 – Juin 2019
Benoît Chèze, Maïa David, Vincent Martinet

This article analyzes conventional farmers' willingness to reduce their use of synthetic pesticides. To do so, a discrete choice experiment was design to include the risk of large production losses due to pests.

Lire la suite / Télécharger le numéro *(PDF - 5 Mo)*

Economic Assessment of the Development of CO_2 Direct Reduction Technologies in Long-term Climate Strategies of the Gulf Countries

Numéro 127 – Mai 2019

Frédéric Barbonneau, Ahmed Badran, Maroua Benlahrech, Alain Haurie, Maxime Schenckery, Marc Vielle

In this paper, we explore the long-term options offered to GCC countries by Carbon Capture and Storage (CCS) and Carbon Dioxide Removal (CDR) technologies in the negotiations for a fair burden sharing of Paris agreement objectives.

rger le numéro *(PDF - 2.5 Mo)*

Some Geopolitical Issues of the Energy Transition

Numéro 126 – Mars 2019 [ÉTUDE & SYNTHÈSE]

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

This article is a summary in English of the Policy Paper published in January 2019 under the title “Vers une géopolitique de l’énergie plus complexe ? Une analyse prospective tridimensionnelle de la transition énergétique”, Policy Research Working Paper, Projet GENERATE, IRIS – IFP Energies nouvelles – ANR.

Lire la suite / Télécharger le numéro *(PDF - 7.5 Mo)*

On the CO_2 emissions determinants of the EU ETS Phases I and II

Numéro 125 – Février 2019
Benoît Chèze, Julien Chevalier, Nicolas Berghmans, Emilie Alberola

This article studies ex-post the CO_2 emissions determinants during 2005-2012 by resorting to an original database merging the European Union Transaction Log (EUTL) with the World Electric Power Plants (WEPP) database maintained by Platts.

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2018

The Nexus Between Climate Negotiations and Low-Carbon Innovation :A Geopolitics of Renewable Energy Patents

Numéro 124 – Décembre 2018
Clément Bonnet, Samuel Carcanague, Gondia Seck, Emmanuel Hache, Marine Simoën

Intellectual property is a central issue in the climate negotiations. On the one hand, it shapes and encourages innovation in low?carbon technologies. On the other hand, it reduces access to these technologies by giving patent holders market power. We analyze the interactions between climate

negotiations and the acquisition of patents on renewable energy technologies.

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Analyzing the Dynamic Impact of Electricity Futures on Revenue and Risk of Renewable Energy in China

Numéro 123 – Octobre 2018

Yue Zhang, Arash Farnoosh

Although the electricity market in China has gone through several reforms, there is not yet a competitive spot or derivative market. This article proposes a model that estimates the risk premium and simulates the future prices in China's market.

Lire la suite / Télécharger le numéro *(PDF - 4 Mo)*

Climate-energy-water nexus in Brazilian oil refineries

Numéro 122 – Septembre 2018

Fernanda Guedes, Alexandre Szklo, Pedro Rochedo, Frédéric Lantz, Leticia Magalar, Eveline Maria, Vásquez Arroyo

By simulating two parametric models, one for all Brazilian refineries, and the other locally detailing the water balance of the country´s largest refinery, this study aimed to quantify the impacts of CO_2

mitigation options on the water use of oil refineries.

Lire la suite / Télécharger le numéro *(PDF - 4.5 Mo)*

Policy measures targeting a more integrated gas market

Numéro 121 – Juin 2018
Ekaterina Dukhanina, Olivier Massol, François Lévêque

Based on a French case study, this article answers the question whether a merger of gas trading zones contributes to the development of liquid trading activities through a more efficient allocation and pricing of natural gas and an increased competition.

Lire la suite / Télécharger le numéro *(PDF - 11.2 Mo)*

Is there a market value for energy performance in a local private housing market?

Numéro 120 – Avril 2018
Déborah Leboullenger, Frédéric Lantz, Catherine Baumont

Using frontier fonctions instead of the customary hedonistic approach, this article aims to find evidence of a “green value” in a local housing market using notarial data on a small urban area in France.

Lire la suite / Télécharger le numéro *(PDF - 5.2 Mo)*

Demand-pull instruments and the development of wind power in Europe: a counterfactual analysis

Numéro 119 – Mars 2018

Clément Bonnet, Marc Baudry

This paper examines the effect of demand-pull policies on the diffusion of onshore wind power technology in six European countries: Denmark, France, Germany, Italy, Portugal and Spain.

Lire la suite / Télécharger le numéro *(PDF - 2.2 Mo)*

GIS-Based Multi-Objective Particle Swarm Optimization of Charging Station for Electric Vehicles – Taking a District in Beijing as an Example

Numéro 118 – Février 2018

Yue Zhang, Arash Farnoosh, Qi Zhang, Siyuan Chen

The rapid development of electric vehicles can greatly alleviate the environmental problems and energy tension. However, the lack of public supporting facilities has become the biggest problem hinders its development.

Lire la suite / Télécharger le numéro *(PDF - 2.8 Mo)*

2017

Spatial integration of natural gas markets: A literature review

Numéro 117 – Novembre 2017
Ekaterina Dukhanina, Olivier Massol

The purpose of this paper is to clarify the definition of an integrated market and to provide a commented overview of the different empirical methodologies that have been proposed to assess the degree of spatial integration of natural gas markets.

Lire la suite / Télécharger le numéro *(PDF - 3 Mo)*

Long-term endogenous economic growth and energy transitions

Numéro 116 – Septembre 2017
Victor Court, Pierre-André Jouvet, Frédéric Lantz

This article build a bridge between the endogenous economic growth theory, the biophysical economics perspective, and the past and future transitions between renewable and nonrenewable energy forms that economies have had to and will have to accomplish.

Lire la suite / Télécharger le numéro *(PDF - 4.2 Mo)*

The technology and cost structure of a natural gas pipeline

Numéro 115 – Juillet 2017
Florian Perrotton, Olivier Massol

This note details a complete microeconomic characterization of the physical relationships between input use and the level of output of a simple point-to-point gas pipeline system and uses it to contribute to the public policy discussions pertaining to the economic regulation of natural gas pipelines.

Lire la suite / Télécharger le numéro *(PDF - 1.5 Mo)*

Impact of variable renewable production on electricity prices in Germany: a Markov Switching model

Numéro 114 – Mai 2017
Cyril Martin de Lagarde, Frédéric Lantz

This paper aims at assessing the impact of renewable energy sources (RES) production on electricity spot prices. To do so, we use a two-regime Markov Switching (MS) model, that enables to disentangle the so-called “merit-order effect” due to wind and solar photovoltaic productions (used in relative share of the electricity demand), depending on the price being high or low.

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Long-term estimates of the energy-return-on-investment (EROI) of coal, oil, and gas global productions

Numéro 113 – Mars 2017
Victor Court, Florian Fizaine

In this study, we use a price-based methodology to assess the global energy-return-on-investment (EROI) of coal, oil, and gas, from the beginning of their reported production (respectively 1800, 1860, and 1890) to 2012.

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Market power and spatial arbitrage between interconnected gas hubs

Numéro 112 – Janvier 2017
Olivier Massol, Albert Banal-Estañol

This paper examines the performance of the spatial arbitrages carried out between two regional markets for wholesale natural gas linked by a pipeline system. We use the case of the “Interconnector” pipeline linking Belgium and the UK as an application.

Lire la suite / Télécharger le numéro *(PDF - 3.4 Mo)*

2016

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Numéro 108 - Septembre 2016
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