

CHAIR



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PARIS SCHOOL OF ECONOMICS  
ÉCOLE D'ÉCONOMIE DE PARIS

PTV

GROUP

TIER

Urban new deal

# Activity Report 2022

## Urban New Deal Chair

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## PARTNERS

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**Enedis** is an independent subsidiary of EDF group. As a public company, Enedis manages the public electricity distribution network over 95% of mainland France, guaranteeing access to this network to electricity suppliers. Created in 2008 under the name ERDF, ENEDIS adopted its current name in 2016, as the contraction between “energy” and “distribution”.

Enedis carries out customer connections, 24/7 troubleshooting, meter reading and all technical interventions. Working on behalf of local authorities, owners of the networks, it is independent of energy suppliers who are responsible for selling and managing the electricity supply contract.

The **Caisse des Dépôts Research Institute** supports research projects that fall within the scope of Caisse des Dépôts’ missions and activities. Its role is to encourage research in fields linked to the activities of Caisse des Dépôts, on various issues such as saving, long-term finance, economic development of local and regional areas, energy and ecological transition, impact of ageing.



**Institut pour  
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**PTV Group** provides software solutions and consulting services to enhance mobility and transportation for a cleaner and smarter future. Its software for intelligent traffic management and transport optimization enables decision-makers in politics, cities, industry, and trade save time and money, make roads

safer, and protect the environment. The company was established in 1979 in Karlsruhe, Germany, as a spin-off from Karlsruhe University of Technology (KIT).

Founded in Berlin in 2018, **TIER Mobility** operates a fleet of light electric vehicles, including ecoolers, ebikes and emopeds in 180+ cities across 19 countries in Europe and the Middle East with a mission to “Change mobility for good”. Following the recent acquisition of Europe’s largest bikeshare player Nextbike, TIER is present in over 410 cities with a fleet of 250,000 vehicles. Its proprietary charging network, TIER Energy Network, helps cities reduce their dependence on cars and offers a safe and sustainable mobility solution.



**TIER had committed to a one-year partnership that ended in December 2022.**

# EDITORIAL

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*By Carine Staropoli and Philippe Gagnepain*

The ambition of the Urban New Deal Chair is to bring together applied economists from the Paris School of Economics working in different field of economics – urban economics, industrial organization, behavioural approaches, energy economics and environmental economics – with diverse empirical methodologies (econometrics, experimental methods, and cost-benefit analysis) to carry out research projects addressing the issue of ecological transformation in cities and territories.

By 2030, approximately 60% of the world's population will live in cities, according to the UN's World Cities Report 2020. This cities play a leading role in the quest for a net-zero future. Cities currently consume 78% of the world's energy and produce more than 60% of greenhouse gas emissions with transport and buildings being among the largest contributors. Recognising the need for immediate change, cities initially led countries in setting net-zero carbon targets. Cities can count on digitalization technologies to bring many solutions that help to optimize public services, organize public spaces, adapt infrastructure, and improve cities' liveability in multiple domains such as the management and operation of mobility, water, waste, logistics and energy. The use of platforms has deeply transformed the interactions between stakeholders (service operators, local governments and citizens) while smart technologies based on smart sensors associated to Internet of Thing (IoT), big data analytics and IA use cases have helped to optimize traffic and the use of public spaces as well as grids and resources management.

Still, a lot needs to be done to leverage this digital transformation into cities and territories towards effective climate action to achieve the net-zero target by 2050. A key policy question for local and national decision-makers is how to make the most for citizens' well-being and deliver more efficient, sustainable and inclusive urban services. Investment decision process involve prioritization, need for impact assessment and acceptance by all stakeholders.

The research agenda of the Urban New Deal Chair entails to investigate these challenges, contribute to public debates and provide decision tools to deciders in the field of mobility and energy sectors. Our contribution is driven by data. The collaboration of our partners who are major actors in their sector is crucial to get access to these data and their expertise.

This report presents the main activities and deliverables of the Urban New Deal Chair during its first year of existence (period 2021-2022). Several projects in the field of energy efficiency and sustainable mobility have been launched by the researchers involved in the chair, and are briefly presented in this report. The first results of these researches will be presented in 2023 in various international conferences and workshops.

We have also organized various academic events that allow us to invite researchers located outside of PSE in order to create a network of people that could be associated to the activity of the chair in the near future. We have also been able to recruit one Post-Doctorate researcher to work on the projects of the chair and we plan to recruit a second one in 2023. 2023 is actually an important milestone in our agenda as it will also be dedicated to the valorisation of our research through the publication of monthly policy briefs and quarterly newsletters. We also plan to organize academic workshops on energy efficiency and we will host the first annual conference of the French Association of Transport Economics this fall.



**Carine Staropoli** is Professor at Paris School of Economics and Senior Lecturer at the University Paris 1 Panthéon-Sorbonne.



**Philippe Gagnepain** is Professor at Paris School of Economics and at the University Paris 1 Panthéon-Sorbonne.

## CONTACTS

### Chair Holders:

Carine Staropoli:

[carine.staropoli@psemail.eu](mailto:carine.staropoli@psemail.eu)

Philippe Gagnepain:

[philippe.gagnepain@univ-paris1.fr](mailto:philippe.gagnepain@univ-paris1.fr)

**Partnership:** [partenariat@psemail.eu](mailto:partenariat@psemail.eu)

**Communication, public relations and events:**

[communication@psemail.eu](mailto:communication@psemail.eu)



# THE URBAN NEW DEAL CHAIR

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The Urban New Deal Chair was created in September 2021 as a partnership between the Paris School of Economics, ENEDIS, the Caisse des Dépôts Research Institute, PTV Group and TIER Mobility, with the ambition to apprehend the New Deal that cities and territories will have to face to get to Net-Zero by 2050. Three quarters of greenhouse gas emissions and two thirds of global energy consumption come from cities, which indicates that they do play a decisive role in decarbonizing society. Public services such as transportation or energy distribution undergo significant changes towards a more sustainable and inclusive offer with important impacts on spatial re-organization. A key issue is then to understand the dynamics of urban structures with respect to the location of households and businesses, in particular, whether these structures are naturally compatible with the desirable target in terms of environmental impact or, on the contrary, whether society will need to implement proactive public policies to reach these objectives in the areas of mobility, energy and housing.

The chair's research agenda aims at studying the effectiveness of various incentive mechanisms and regulation in the field of mobility and energy policies, in order to improve energy efficiency and the decarbonisation of cities and territories. It aims at contributing to the public debate in France and at an international level on the conditions that facilitate the implementation of the digital transformation of cities, as a vector of environmental transition and greater social inclusion and resilience, and providing decision-making support tools for the various stakeholders.

The chair will offer at the same time an academic and practical expertise to help analysing and understanding the dynamics of cities (and peripheral territories), but also to design an optimal management of new services in the fields of mobility, energy, and housing. Different empirical approaches are considered. In particular, experiments in labs allow us to measure the perception and appropriation by transport users of different types of tariffs, information signals or equipment, which are supposed to promote and support changes in individual and collective behaviour. These tariffs are important tools to promote and facilitate energy and environmental transition. New sources of massive data on the use and consumption of urban services, the functioning of networks (smart grids), the interactions between actors, urban sprawl, service performance, at the crossroads of the industrial economy and urban economics (econometrics, statistics, socio-economic evaluation, or case studies), allow studying the conditions for the effectiveness of this new offer of urban services which aims at implementing the sustainable development of cities.

Led by Carine Staropoli and Philippe Gagnepain, the chair relies on a group of researchers, postdoctoral and doctoral students whose research addresses theoretically and empirically the various topics dealt with by the chair.







## MEMBERS

### Associate researchers:



**Nicolas Astier**  
(PSE, École des Ponts ParisTech)  
Research topics: energy transition,  
transportation economics, smart grid  
and smart cities

**Miren Lafourcade**

(PSE, Université Paris-Saclay)  
Research topics: geographical economics,  
urban economics, transport economics



**Ariane Dupont-Kieffer**  
(University Paris 1 Panthéon-Sorbonne)  
Research topics: social justice,  
transportation economics, history of  
econometrics

### PhD students and postdoctoral fellow (2021-2022):



**Hélène Bénistand** (PSE)  
Research topics: social justice,  
transportation economics, history of  
economic thought

**Clément Gras** (PSE, EHESS)

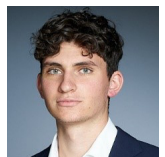
Thesis title: "Essays in contract theory and  
regulatory economics"  
Supervisor: David Martimort



**Nicolas Hatem** (PSE, University Paris 1  
Panthéon-Sorbonne)  
Thesis title: "Contracts, governance and  
financing in large urban infrastructure  
systems"  
Supervisor: Carine Staropoli

**Samy Zitouni** (PSE, University Paris 1  
Panthéon-Sorbonne)

Thesis title: "The contribution of  
behavioural economics to the analysis of  
the effectiveness of environmental policies"  
Supervisor: Carine Staropoli







## 1. Distributed energy sources

This research is conducted by **Nicolas Astier** and **Nicolas Hatem** and studies the role of distributed energy resources (DERs), mainly rooftop solar photovoltaic (PV), in the energy transition.

A first area of interest is the trade-off between DERs and their utility counterparts. Solar PV may indeed be deployed as very small units, such as rooftop PV, or as very large installation, such as a solar farm of several hundred MW. Although the latter approach is twice to three times less costly (as measured by the levelized cost of electricity), public policies in pretty much every country provide higher subsidies (per unit of output) to distributed installations. This puzzle could be justified by market failures that public policies would internalize. In particular, DERs are located at end-consumers' premises, and could thus trigger substantial savings in future grid investments. Because such investments occur in distribution grids and are thus not reflected in market prices, higher subsidies for DERs could be rationalized by the fact that they will enable significant savings in future grid investments. Investigating this question using very detailed data from the French power grid, Astier et al. (2023) however suggests that savings in future grid investments are unlikely to be sufficient to rationalize the large asymmetry between the subsidies received by DERs vs utility-scale installations. Additional data provided by Enedis enabled to further investigate possible heterogeneous effects between DERs connected to the medium-voltage vs low-voltage grid.



Having a better understanding of the relative strengths and weaknesses of DERs vs utility-scale installations, one may then assess the extent to which past public policies have been cost-efficient at navigating this trade-off. Although the costs of past policies are obviously sunk, this exercise is useful to understand the main sources of misallocation and thus improve future public policies. Performing such an evaluation for solar PV in France between 2005-2021, Astier and Hatem (2023) find in their preliminary results that realized investments were very cost inefficient. The main source of misallocation stems from the very early and large-scale investments in residential PV. In contrast, a cost-efficient trajectory would have started with medium-scale projects and delayed investments in DERs to the end of the time window in order to benefit from the dramatic decrease in their costs.

Finally, an ongoing research project studies the barriers and levers faced by municipalities for implementing solar PV, more particularly ground-mounted PV projects. France has set the objective to double its installed solar PV capacity within five years and has recently issued new legislation to accelerate its development. However, the deployment of ground-mounted PV projects often clashes with local constraints, whether it is competition with other land uses or controversies. Specific conditions at the municipality level can facilitate (or hinder) the installation of ground-mounted PV. In his 3rd thesis chapter, Nicolas Hatem investigates how and to what extent local administrative frameworks and urban planning regulation influence the uptake of ground-mounted PV project locally.

## 2. Sustainable and inclusive mobility topics

### Transportation and mobility in a fairer society in collaboration with PTV Group

Aiming to define a public tool that should help policymakers to characterize, implement, and assess transport and mobility policies that contribute to a fairer society, **Hélène Bénistand** and **Ariane Dupont-Kieffer** develop the Quality Adjusted Sustainable and Equitable Mobility index (QASEM).



The QASEM is inspired by a health economics tool: the Quality Adjusted Life Years index (QALY). The QALY allows ranking all the treatments regarding the gains in terms of quality or quantity of life. The ranking can be made at the macro level, in order to define a public health policy, or at the micro level, to define which treatment is the more suitable for a person. The ranking is based on a trade-off between a gain in the quality of life and a gain in the quantity of life (i.e., years).

The QASEM relies on the same principle: a trade-off between two dimensions. The first one corresponds to a combination of human capital and economic growth, while the second one accounts for the environmental effect. The QASEM will lead to a ranking of transportation and mobility policy propositions according to different social justice frameworks.

### Pricing, cognitive bias and transport mode choice: new evidences from the Lab

The research program financed by Transdev uses lab experiment to gather data in order to better understand the behaviors of travellers, notably the transport mode choice. **Carine Staropoli** and **Philippe Gagnepain** together with researchers from the BETA (Université de Lorraine) investigate how cognitive biases may distort tariffs' impact on transport mode choice. The rational model of travel mode choice assumes that travellers maximise individual utility subject to time and budget constraints. Tariff is theoretically seen as the policy instrument that provides the incentives to take the optimal decision.

However, designing the optimal pricing scheme reflecting the marginal social cost of travelling, which is the optimal tariff, is not an easy task. Typically, travelers don't take into account some positive or negative externalities of their individual choice of mobility, notably the congestion. Marginal cost pricing and "user pays principle",



one of the key objectives of the EU transport policy since the 1990s are thus difficult to reach. In practices, public transport operators try to maximize their revenues by offering a range of alternative non-linear tariffs, in addition to the flat tariff to exploit differences in the price sensitivity of travellers given their characteristics. Given the increased tariff's complexity, travelers might not be able to process all the available information correctly and may be affected by cognitive biases.



### 3. Energy efficiency in building



Energy efficiency is the use of less energy in a building to perform the same operation as buildings that consume energy inefficiently. Efficient energy consumption in buildings is seen as one of the most affordable ways to lessen the detrimental effects of climate change and health-related problems. It reduces household expenses and decreases carbon dioxide emissions which both have impact and co-benefits that have to be assessed. The imperative to act quickly on energy efficiency has never been stronger. This research program aims at studying the efficiency conditions of different policies for accelerating sustainable building renovation.

**Samy Zitouni** (PhD student) explores in his PhD the efficiency conditions of public aids for consumers, adopting a behavioral approach to characterize the levers and obstacles to energy renovation.

**Nicolas Hatem** (PhD student) focuses on cities' choice between different energy policies to cost-effectively decarbonize the residential housing stock and deliver co-benefits in the context of high energy prices. More particularly, he studies the alternative offered to a city between: investing in district heating networks (low-carbon energy assets) and subsidizing energy efficiency retrofits. While both policies avoid substantial carbon emissions, they do not deliver the same amount of co-benefits depending on the context. District heating networks appear to be more cost-effective than energy efficiency retrofits in higher energy prices scenarios, generating significant windfall benefits to consumers. In a context of energy prices inflation as recently observed in Europe, cities thus have the opportunity to accelerate more capital-intensive projects with higher decarbonation potential.

On the same topic, a new postdoctoral fellow will be recruited to work on the assessment of the consequences of ongoing efforts of sobriety and energy efficiency together with the increased use of electrical energy.

### 4. Knowledge spillovers in public transport

Knowledge spillovers are usually seen as a process in which firms obtain new knowledge from external sources. They are interpreted as externalities in a competition game where the agents are unable to fully appropriate all benefits from their own R&D activities. Knowledge spillovers are key ingredients of firms' productivity and economic growth. **Philippe Gagnepain** and **Luis Aguiar** focus on the issue of the identification of spillovers in the particular case of the regulation of firms with incentive contracts. The incentive power of each regulatory contract directly shapes the operator's R&D intensity, and spillovers are measured within the industrial groups that provide public services in several urban areas simultaneously. Thus, spillovers are directly linked to the know-how of a specific group, but they also depend on the decisions taken by a local manager.

This research suggests that the flow of knowledge spillovers across the members of the same group are significant and increase with the size of the group, and they allow transport operators to obtain significant cost reductions. Moreover, operators' activities that present larger differences in characteristics relative to their group benefit to a larger extent from the effort provided by other operators of their group. Thus, while a minimum degree of overlap of knowledge across operators is necessary for internal communication, there are also benefits to diversity of knowledge and organizational structures across networks.







## Focus on the “Micro-mobility in cities” conference (Monday, October 17, 2022)

The first academic workshop organized by **Miren Lafourcade** (PSE, Université Paris-Saclay) for the Urban New Deal Chair, entitled “Micro-mobility in cities”, took place on Monday, October 17, 2022 at the Paris School of Economics. Micro-mobility is increasingly recognized as a promising urban transport mode, particularly for its potential to reduce increase city sustainability through the reduction in private vehicle use for short-distance travel. From the academic point of view, the analysis of whether and how micro-mobility impacts cities remains overlooked. The objective of this workshop was to bring together academics, experts and operators of the field to consolidate knowledge, and to encourage on-going research developments and data sharing on this topic.

The workshop focused more particularly on the impact of bike systems on cities. The first paper, entitled “People on bikes getting coffee: the impact of cycle lanes on cities”, presented by **Elisabet Viladecans-Marsal** (University of Barcelona), has investigated the impact of cycle lanes and bike-sharing stations on housing prices in Barcelona, by exploiting variation within increasingly distant rings around the dwellings located in the *example* district, starting from 50 meters up to 500 meters radius. She has shown that bike-sharing stations have positive effects on both rents and sales when opened in the immediate proximity of a house, but that the effect of cycle lanes depends on the distance from them.



**Mariona Segú** (CY Cergy Paris University) then presented a paper entitled “Bike-friendly cities: an opportunity for local businesses? Evidence from the city of Paris”, which investigates the economic impact of the “Plan Vélo” cycling infrastructure in Paris. Using geolocated data covering nearly the universe of credit card transactions, she finds a positive and statistically significant elasticity of local revenues to the raise in bike market access induced by this program, with a larger elasticity in areas with smaller and younger businesses.



The third paper, entitled “The impact of cycling segregated lanes on road users in London”, and presented by **Louise Bernard** (London School of Economics and Political Science), has shown that the London’s Cycle Superhighways scheme was associated with a large increase (about 25%) in cycling ridership. Most of this increase was due to new cyclists and increased cycling frequency driven by safety improvement (more cyclists on safer lanes), as there is no evidence of cyclist displacement or car traffic displacement.



Finally, **Vincent Thorne** (Trinity College Dublin) presented a paper entitled “What is the impact of increasing the supply of bicycles on air pollution in cities?”, that investigates the environmental impact of cycling lanes on pollution and congestion in New-York city. He has found that air pollutants associated with road traffic decreased faster in areas with bicycle-share compared to counterfactual similar areas.

The workshop gathered around thirty participants from many different institutions (including the London School of Economics and Political Science, Trinity College, Paris School of Economics, OECD, OFCE, Sciences Po Paris, École des Ponts ParisTech, ESSEC Business School, and the Universities of Barcelona, CY Cergy-Paris, Paris-Dauphine, Paris 1 Panthéon-Sorbonne, Paris-Saclay), who had the opportunity to interact with experts from micro-mobility providers, such as TIER (**Pauline Aymonier** and **Pauline Gain**, Heads of public policy - smart & sustainable city, France), PTV group (**Christian U. Haas**, CEO of PTV Group, Germany), and Transdev (**Jean Coldefy**, ATEC ITS, mobility expert director and Transdev CEO advisor, France), who debated with the audience through round tables.

## OTHER EVENTS

### Sustainable Impact Analysis - SIA annual conference (Monday, March 21, 2022)

The MSc SIA 2022 annual conference entitled “Investing in sustainable infrastructure to reach net-zero emission” took place online on Monday, March 21. More than 80 participants attended the conference. Organized as a roundtable, the aim was to emphasize how infrastructures are transformed to contribute to the decarbonation of sector which have an environmental impact. The urge to act foster the transition toward more sustainable infrastructures. Two of the Urban New Deal Chair Partners representatives, **Yves Barlier**, Smart grid program director at Enedis, and **Christian Hass**, CEO at PTV Group, presented how their solutions (respectively smart grids and software and optimization solution) are crucial to make infrastructures more sustainable. **Olivier Micheli**, CEO of Data4, and **Christophe Hug**, deputy managing director at Vinci Autoroute, completed the panel with a focus of Data Center and highway sectors.





**PSE annual conference on global issues:  
“For a systemic and humanist environmental transition”  
(From Wednesday, May 11 to Friday, May 13, 2022)**



The PSE annual conference on global issues “For a systemic and humanist environmental transition” mobilized all the school toward new research, teaching and public outreach on the environmental transition.

The Paris School of Economics wishes to engage in a **multi-dimensional economic approach to environmental issues**, which integrates more strongly the behaviours of households and firms, with a focus on an international context, and which takes into account the political constraints and principles of equity that condition the range of possible choices. This implies to commit to covering both the **“efficiency” and “equity” aspects of environmental transition**. These dimensions cannot be separated in the presence of externalities and constraints on policies linked to the behaviour and motivations of individuals and economic actors. The Urban New Deal Chair sponsored two sessions dedicated to sustainable cities and sustainable mobility with the participation of leading scholars in the field. **Pauline Aymonier** (TIER Mobility) participated to the round table “Enriching the dialogue between the stakeholders of the environmental transition” to present the role of micromobility in the sustainable mobility policy.





## Third society for benefit-cost analysis: european conference (Thursday, November 3 and Friday, November 4, 2022)

The Urban New Deal Chair sponsored two parallel sessions dedicated to transport policy and four parallel sessions dedicated to energy and environment sectors at the third society for benefit-cost analysis: european conference (SBCAEC2022). The aim of this conference is to promote and improve the theory and application of the tools of benefit-cost analysis to all type of public policies and investment decision. Sessions were organized with both research and policy focus and the two days have provided a rich forum for scientific exchanges. Two hundred people attended the conference at the Paris School of Economics.



## PSE Summer School 2022 (From Monday, June 13 to Friday, July 1, 2022)

In June 2022, the Paris School of Economics proposed a program on industrial organization that focused on platform economics in the framework of its Summer School. Two-sided platforms, or networks, can be found in many industries, including urban transportation, search engines or communication networks such as the media and the internet. The program familiarizes participants with the relevant methods that are required to analyse several important issues that are currently discussed in the economic literature, including policy. This is a purely academic program which aims at discussing theoretical and empirical tools that can be used by master students and PhDs to develop their economic models in the course of their future scientific carrier. Practitioners interested in antitrust laws and economics are also given the opportunity to discuss competition cases related to exclusionary strategies (abuses of dominant positions in Europe) and collusion. This course focuses on specific issues such as how dominant firms can use exclusivity clauses and market-share discounts in order to deter entry or evict competitors.







The capstone project carried out within the MSc Sustainable Impact Analysis - SIA (Paris School of Economics - École des Ponts ParisTech) mainly consists of fulfilling a consulting mandate given by a company or any other organization interested in taking advantage of the training provided by the program in economic evaluation of all types of investment projects. SIA students are supervised by academic's experts of the topic, they deliver a written report and a policy brief.

In 2022, one of the capstone projects was done for TIER Mobility, partner of the Urban New Deal Chair. The students have proposed a socio-economic evaluation of the e-scooter service in Saint-Quentin-en-Yvelines, a peri-urban area where TIER Mobility chose to implement its first electricity charging network. The results show that the service creates a collective value of 931 000€ in 2021 which corresponds to a net socio-economic value of 1.86€/ e-scooter trip. In 2023, it is ENEDIS's turn to be a partner of a capstone project dedicated to the socio-economic evaluation of smart charging program in electric mobility sector.

**Trottinettes électriques : quelle création de valeur collective pour le péri-urbain ?**

**Evaluation socio-économique du service de trottinettes électriques partagées de TIER Mobility à Saint-Quentin-en-Yvelines**

**Contexte**

En 2021, l'opérateur de micro-mobilité TIER Mobility a installé son **service de trottinettes électriques partagées** dans la **communauté d'agglomération Saint-Quentin-en-Yvelines (SQY)** à la suite d'un appel à candidatures. SQY cherchait à proposer à ses **200 000 habitants** une solution de transport capable de compléter son infrastructure existante (bus, vélos, navettes autonomes) et de constituer une alternative crédible à la voiture. Le service TIER Mobility consiste en **300 stations** et **environ 1000 trottinettes déployées** sur l'ensemble des 12 communes. Si ce nouveau mode de transport a su séduire les usagers, qui l'utilisent maintenant pour réaliser plus de **2000 trajets quotidiens**, aucune étude ne s'était, jusqu'à présent, penchée sur la création de valeur collective - sociale, économique et environnementale - des services de trottinettes électriques partagées en zone péri-urbaine. Aussi, une équipe étudiante de l'École d'Économie de Paris et de l'École des Ponts ParisTech s'est appuyée sur la **méthodologie de l'évaluation socio-économique** et des données issues du déploiement du service TIER Mobility à SQY afin de **vérifier que les bénéfices sociaux, économiques et environnementaux de ce service dépassent bien ses coûts**.

**Impacts socio-économiques**

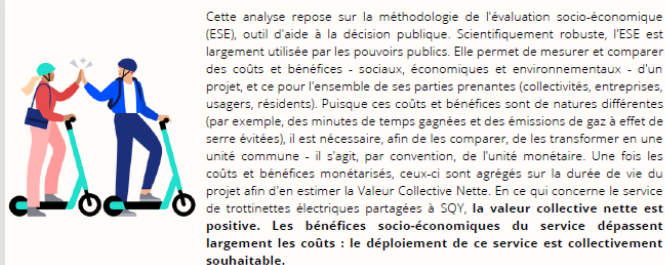
- Bénéfice environnemental**  
Emissions de CO<sub>2</sub>, pollution atmosphérique locale
- Gain de temps**  
Temps gagné par l'utilisateur sur ses trajets quotidiens par rapport aux autres modes de transport disponibles
- Coût du trajet**  
Coût d'un trajet pour l'utilisateur comparé aux alternatives disponibles
- Occupation de l'espace public**  
Réduction des revenus de SQY liés à l'utilisation de l'espace public, frais d'occupation payés par TIER Mobility

**Chiffres clés en 2021**

- 931 000 €**  
Valeur collective nette du service
- 500 000**  
Trajets effectués
- 40 000**  
Usagers uniques
- 1.86€**  
Valeur socio-économique d'un trajet en trottinette électrique

**SAINT QUENTIN EN YVELINES**  
**TIER**  
**PS**  
PARIS SCHOOL OF ECONOMICS

## La démarche d'évaluation socio-économique



## Les spécificités de l'analyse

La présente étude repose, d'une part, sur des données d'usage du service de trottinettes électriques partagées à SQY (nombre de trajets notamment), et, d'autre part, sur les résultats d'un questionnaire ad-hoc mené par l'équipe étudiante auprès d'usagers du service. Ce questionnaire a notamment permis à l'équipe de caractériser le profil des usagers, ainsi que de mesurer le report modal des usagers vers le service déployé par TIER Mobility.

Le report modal est une donnée centrale de la mesure de la création de valeur collective de ce service : les bénéfices environnementaux seront par exemple plus importants pour les usagers délaissant leur voiture personnelle au profit d'une trottinette électrique partagée, tandis que les gains de temps seront plus importants pour les usagers ayant jusqu'alors réalisé leurs trajets à pied. En interrogeant directement les usagers de SQY, ce questionnaire nous permet de **capturer les spécificités des zones péri-urbaines** (distance des trajets, taux de motorisation) et **l'utilité d'un service de micro-mobilité pour ce type de territoire**.



Les résultats de cette enquête montrent notamment que le service de TIER Mobility induit un report modal de la voiture personnelle vers la trottinette électrique partagée significativement plus élevé en territoire péri-urbain qu'en zone urbaine dense : ce report est, à SQY, **50% supérieur au report observé suite au déploiement de services de trottinettes électriques partagées à Paris**. En encourageant la **réduction des trajets en véhicule personnel**, le service de TIER Mobility permet de **réduire de 42,3 tonnes par an les émissions de CO<sub>2</sub> sur le territoire de SQY**. Concernant le profil des usagers, l'enquête a permis de révéler une base d'utilisateurs jeune, majoritairement étudiante, qui utilise les trottinettes électriques pour compléter et/ou se substituer aux trajets en voiture, en bus et en marche à pied. Dans leur grande majorité (75%), leur motivation première est de gagner du temps sur leurs trajets, et de bénéficier d'un service pratique. Le gain de temps des usagers est déterminant dans la valeur collective positive créée par le service, qui dépasse largement les coûts induits.



## PUBLICATIONS

In 2022, the chair's researchers published a large number of works, in the form of articles in peer-reviewed journals and working papers. The selection below provides an overview of the research carried out during the year.

### Peer-reviewed journals

Publication in peer-reviewed journals is the backbone that ensures the collective validation of research articles through peer review. The articles of the chair's researchers have been published in the best international journals in economics.

Aguilar L., Gagnepain P., "Absorptive capacity, knowledge spillovers and incentive contracts", *International Journal of Industrial Organization*, 82, 2022.

Garrouste M., Lafourcade M., "Place-based policies: opportunity for deprived schools or zone-and-shame effect?", *CEPR Discussion Paper n°17750 (PSE Working Paper halshs-03899920)*, 2022.

Perez Y., Staropoli C., « Les véhicules électriques : leviers pour une mobilité durables ? », *Special issue of Revue d'économie industrielle*, N°178-179, DeBoeck Supérieur Ed., 2022.

Astier N., Rajagopal R., Wolak F. A., "Can distributed intermittent renewable generation reduce future grid investments? Evidence from France", *Journal of the European Economic Association*, N°21(1), p.367-412, 2023.

Dupont-Kieffer A., Palmier P., Papaix C., "Potential accessibility to the workplace by public transit and its social distribution in Lille, France: an equity appraisal", *Transport Policy*, 125 (256-266), June 2022.

### Working papers

Before being published in peer-reviewed journals (a process that can take several years), the chair's members' research is disseminated in the form of working papers to increase its impact and its visibility, and stimulate constructive criticism in seminars, workshops and conferences.

Bénistand H., "Measuring equitable transportation along different social justice frameworks", 2023.

Astier N., Hatem N., "Dynamic (mis)allocation of investments in solar energy", 2023.

Gagnepain P., Massoni S., Mayol A., Staropoli C., "Pricing, cognitive biases and transport mode choice: new evidences from the lab", 2023.





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Paris School of Economics  
48 Boulevard Jourdan  
75014 Paris  
[www.parisschoolofeconomics.eu](http://www.parisschoolofeconomics.eu)

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