NADIA MAÏZI

Full Professor · MINES Paris – PSL

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Full Professor of Applied Mathematics at MINES Paris – PSL and founding Director of The Transition Institute 1.5 and the Chair 'Modeling for Sustainable Development', Nadia Maïzi has spent three decades at the intersection of energy systems modelling, climate policy and applied mathematics. She has advised 30 PhD students and 5 postdoctoral fellows, authored patented technology on electrical grid stability, and served as Lead Author for the IPCC Sixth Assessment Report and leader of the RINGO delegation of ParisTech at the Conference of Parties for the UNFCCC. Her work bridges rigorous prospective modelling with real-world policy design, most notably as long-standing French Delegate to the IEA's Energy Technology Systems Analysis Program and as an advisor to French ministries, the CRE energy regulator and the CEA. She is Officer of the French National Order of Merit and Knight of the Legion of Honour.

DISTINCTIONS

- **Officer** of the French National Order of Merit *(2021)*
- **Knight** of the Legion of Honour *(2015)*
- **Knight** of the Order of Academic Palms *(2006)*

CURRENT POSITION

Professor in Applied Mathematics. Promoted to First Class in 2006, to Classe Exceptionnelle in 2015.

2021 - present	**Founder and Director**, The Transition Institute 1.5, MINES Paris – PSL Research University
2009 - present	**Head**, ParisTech Delegation for the United Nations Framework Convention on Climate Change (UNFCCC)
2008 - present	**Founder and Director**, Chair 'Modeling for Sustainable Development'

EDUCATION

2020 - 2021	Collège des hautes études de l'Institut diplomatique (Quai d'Orsay), France
2012	**Habilitation**, Optimisation, Prospective — Université Nice Sophia Antipolis (UNS), France
1994	**Post-doc**, Robotics, Computer Science — Stanford University, USA
1992	**Ph.D.**, Control Science — MINES Paris – PSL, France
1988	**M.Eng.**, Civil Engineering — MINES Paris – PSL, France
1986	**M.Sc.**, Pure Mathematics — Aix-Marseille University, France

PREVIOUS POSITIONS

2018 - 2023	*Intergovernmental Panel on Climate Change (IPCC) member — Lead Author for the Sixth Assessment Report AR6*
2000 - 2026	*Director* of the Center for Applied Mathematics of MINES Paris – PSL
2005 - 2015	*Scientific advisor*, Program TOSCA, Inria
1999 - 2015	*Founder and co-Director*, Master of Advanced Studies in Energy Optimization (OSE), MINES Paris – PSL
1997 - 2000	*Associate Professor* in Computer Science and Control and *Deputy Director*, Institute for Research in Computer Science and Control, MINES Paris – PSL
1995–1997	*Research Associate and Senior Lecturer*, Applied Mathematics, MINES Paris – PSL

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

1995–present

- **Postdoctoral fellows (5):** at MINES Paris – PSL ; 1 now assistant professor, 1 researcher at IIASA (Austria). Currently advising 2 postdoctoral students.
- **Ph.D. students (30, 8 as co-advisor):** at MINES Paris – PSL (one jointly with Universidad de Chile) ; 15 now in R&D careers (incl. 4 assistant professors), 7 expert scientists at IEA, IRENA, IFPEN or PSI (Switzerland) and the others in industry. Currently advising 6 Ph.D.s (2 as co-advisor).
- **Advanced Master students (~300):** Master of Advanced Studies in Energy Optimization and in Control Science, MINES Paris – PSL ; most now in energy companies, international organizations and engineering firms.
- **International Master students (15):** from MIT (USA), École Polytechnique de Tunis (Tunisia), Università dell'Aquila (Italy), Université Libre de Bruxelles and Université Catholique de Louvain (Belgium), Université d'Oran (Algeria), and LMU Munich (Germany).
- **Thesis committees (25):** Ph.D. and habilitation committees at MINES Paris – PSL, Ecole Polytechnique, CNRS, Mines d'Albi, Institut Polytechnique de Grenoble, Université de Tours, Université Joseph Fourier, Université Paris Saclay, EHESS (France), Université Catholique de Louvain (Belgium), NTNU and University of Bergen (Norway).

TEACHING ACTIVITIES

Creator of all lectures listed below.

- **2025 - present** Founder, Mines Exec certificate PETRA (Planet in Transition)
- **2018 - present** Modeling the Energy and Climate Transitions: Long-Term Scenarios, Master level, École Polytechnique, France
- **2015 - 2016** Lecturer, MOOC "Causes and Challenges of Climate Change" (UVED, 7,500+ attendees) and Energy Transition MOOC (IMT/FUN)
- **2008 - present** Prospective Modeling and Climate Change, Master level, MINES Paris – PSL, École des Mines de Nancy, École Centrale Lille, Université Paris Saclay
- **1999 - 2019** Optimization, Operational Research and Prospective, Master of Advanced Studies (Energy Optimization), MINES Paris – PSL
- **1995 - 2003** Control and System Theory, Master level, MINES Paris – PSL, École des Mines de Saint-Étienne

INSTITUTIONAL RESPONSIBILITIES

- **2025 - present** Member, Scientific Committee Transition (Collège des Sociétés Savantes Académiques de France)
- **2023 - present** Member, Advisory Board of the Master in Finance, EDHEC Business School
- **2023 - present** Member, Scientific Council of the Energy Regulatory Commission (CRE)
- **2020 - present** Member, Advisory Committee of the CEA (French Commissariat aux Energies Alternatives) — nominated by the French Ministry of Ecology, Sustainable Development and Energy
- **2022 - 2025** Member, Advisory Committee of the BPIFrance Lab
- **2022 - 2025** Member (nominated by the President), Algerian National Council of Research, Science and Technology
- **2021 - 2024** Member, Advisory Committee of Université Paris-Saclay
- **2020 - present** Member, Scientific Committee PHC-Tassili (French–Algeria cooperation) — nominated by the French Ministry of Foreign Affairs
- **2018 - present** IPCC member, nominated by the French government
- **2015 - 2018** Member, Energy Transition Expert Committee — nominated by the French Ministry of Ecology, Sustainable Development and Energy; contributed to the Energy Transition for Green Growth Act
- **2016 - 2018** Coordinator, collaboration between PSL University and University of California, Berkeley
- **2005 - present** French Delegate and Executive Committee member, Energy Technology Systems Analysis Program (ETSAP), IEA

- **2015 - 2018** Member, Board of Directors, Smart Grids France association
- **2015 - 2018** Member, Scientific Committee, Ministry of Ecology programme on Climate Change Management and Impacts (GICC)
- **2013 - 2015** Member, Smart Grid Plan (Réseaux Électriques Intelligents – REI), representing the French Ministry of Higher Education and Research and the Carnot Institutes; leader of REI projects "Smart Grid Academy" and "Research & Development"
- **2013 - 2017** Elected member representing Professors, Scientific Committee of Institut MINES-Télécom
- **2010 - 2011** Member, Advisory Committee of the Commissariat-General for Investment (Prime Minister), ad hoc committee on "Future Investment, the Circular Economy and Decarbonized Energy"
- **2008 - present** Chair and committee member, annual scientific workshops, Chair Modelling for Sustainable Development

REVIEWING ACTIVITIES

- **2019 - present** Editorial board member, *Sustainability* (MDPI)
- **2018 - present** Member, Scientific Committee of the 3IA Institute in Artificial Intelligence, Sophia-Antipolis, France
- **2018 - 2019** Member, HCERES Panel for the Scientific Evaluation of IFSTTAR and CEATech
- **2018 - present** Expert, Scientific Advisory Board, IFPEN (IFP Énergies nouvelles)
- **2018 & 2024** Member, Panel for the Scientific Evaluation of the Helmholtz Association's Forschungszentrum Jülich (FZJ), Germany
- **2015 - 2019** Member, Sustainable Development Researchers Review Committee, French Ministry of Ecology, Sustainable Development and Energy
- **2017 – 2020** Member, nomination committees for tenure-track positions (University of Geneva, Switzerland) and researchers (Inria, France)
- **2014 - 2016** Member, Appellation Committee, Télécom ParisTech
- Member, Energy Scientific Review Committee, French National Research Agency (ANR)

Expert / committee member for research agencies: ANR (France), ECOS-Nord, European Commission (FP7 Cooperation Programme), NSERC (Canada), FNRS (Belgium), SFOE (Switzerland), Research Programme of the French Ministry of Foreign Affairs.

Referee: Energy Policy, Applied Energy, Energy Economics, Energy, Renewable and Sustainable Energy Reviews, IFAC and IEEE conferences.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Member, SMF, SIAM, IEEE, IAEE

LANGUAGES

- **French —** native
- **English —** fluent
- **Arabic —** intermediate (dialectal, spoken)

SELECTED PUBLICATIONS (LAST DECADE)

1. Thibaut Feix, Nadia Maïzi, Modeling for post-growth: Backcasting radical futures, Ecological Economics, Volume 250, 2026, 109141, ISSN 0921-8009, https://doi.org/10.1016/j.ecolecon.2026.109141.
2. C. Barnet, N. Maïzi, S. Selosse. From hydrocarbon to low-carbon hydrogen: Energy and economic challenges facing the Middle East and North Africa region. Renewable and Sustainable Energy Reviews, 217, 2025, 115768. https://doi.org/10.1016/j.rser.2025.115768
3. A. Millot, N. Maïzi. From open-loop energy revolutions to closed-loop transition: What drives carbon neutrality? Technological Forecasting and Social Change, 172, 2021, 121003. https://doi.org/10.1016/j.techfore.2021.121003
4. A. Millot, A. Krook-Riekkola, N. Maïzi. Guiding the future energy transition to net-zero emissions: Lessons from exploring the differences between France and Sweden. Energy Policy, 139, 2020, 111358.
5. F. Creutzig et al. (incl. N. Maïzi), Reviewing the scope and thematic focus of 100,000 publications on energy consumption, services and social aspects of climate change: A big data approach to demand-side mitigation, Environmental Research Letters, http://iopscience.iop.org/article/10.1088/1748-9326/abd78b, 2020.
6. G. Sokhna Seck, V. Krakowski, E. Assoumou, N. Maïzi, V. Mazauric. Embedding power system's reliability within a long-term Energy System Optimization Model. Applied Energy, 257, 2020, 114037.
7. Y. Alimou, N. Maïzi, J.-Y. Bourmaud, M. Li. Assessing the security of electricity supply through multi-scale modeling: The TIMES-ANTARES linking approach. Applied Energy, 279, 2020, 115717. https://doi.org/10.1016/j.apenergy.2020.115717
8. A. Boubault, N. Maïzi. Devising Mineral Resource Supply Pathways to a Low-Carbon Electricity Generation by 2100. Resources, 8(1), 2019, 33. doi:10.3390/resources8010033
9. S. Selosse, S. Garabedian, O. Ricci, N. Maïzi. The renewable energy revolution of Reunion Island. Renewable and Sustainable Energy Reviews, 89, 2018, 99–105.
10. V. Krakowski, E. Assoumou, V. Mazauric, N. Maïzi. Feasible path toward 40%–100% renewable energy shares for power supply in France by 2050: A prospective analysis. Applied Energy, 171, 2016, 501–522.
11. Jean-Michel Cayla, Nadia Maïzi, Integrating household behavior and heterogeneity into the TIMES-Households model, Applied Energy, Volume 139, 2015, Pages 56-67, ISSN 0306-2619, 10.1016/j.apenergy.2014.11.015.

RESEARCH MONOGRAPHS AND BOOK CHAPTERS

1. N. Maïzi, E. Assoumou, A. Millot (2024). Retrospective of Prospective Exercises: A Chronicle of Long-Term Modelling and Energy Policymaking in France. In: Aligning the Energy Transition with the Sustainable Development Goals, Lecture Notes in Energy vol. 101. Springer, Cham. https://doi.org/10.1007/978-3-031-58897-6-16
2. N. Chabouni, C. Barnet, E. Assoumou, N. Maïzi, S. Selosse (2024). Align Algeria's Energy Diversification Strategies with Energy and Climate Sustainable Development Goals. In: Aligning the Energy Transition with the Sustainable Development Goals, Lecture Notes in Energy vol. 101. Springer, Cham.
3. F. Creutzig, J. Roy, P. Devine-Wright, et al. (incl. N. Maïzi) (2022). Demand, services and social aspects of mitigation. In IPCC, 2022: Climate Change 2022: Mitigation of Climate Change — Contribution of Working Group III to the Sixth Assessment Report. Cambridge University Press. doi:10.1017/9781009157926.007
4. A. Millot, R. Doudard, T. Le Gallic, F. Briens, E. Assoumou, N. Maïzi (2018). France 2072: Lifestyles at the core of carbon neutrality challenges. In: Limiting Global Warming to Well Below 2°C, Lecture Notes in Energy vol. 64. Springer.
5. N. Maïzi, S. Bouckaert, E. Assoumou (2016). Long term water and energy issues in European power systems. In: Competition for Water Resources: Experiences and Management Approaches in the US and Europe. Elsevier, Cambridge, MA. ISBN 9780128032374

PATENTS GRANTED

- N. Maïzi, M. Drouineau, V. Mazauric (inventors). Procédé d'estimation de la stabilité d'un système électrique. FR20110061087, 2011-12-02. Schneider Electric Industries SAS / ARMINES. Granted 2012-11-30.
- N. Maïzi, M. Drouineau, V. Mazauric, S. Bouckaert (inventors). Method of estimating the stability of an electrical system. WO2012EP74161, 2012-11-30. Schneider Electric Industries SAS / ARMINES. Granted 2015-07-10.