# CV
# FABIEN ROQUES

COMPASS LEXECON

22 Place de la Madeleine
4th floor
75008 Paris

T: +33 (0)1 53 05 36 29
M: +33 7 88 37 15 01
froques@compasslexecon.com

## EDUCATION

*2003 – 2006 PhD in Energy Economics,* University of Cambridge, United Kingdom
*2001 – 2003 MPhil in Technology Policy,* University of Cambridge, United Kingdom
*2001 – 2003 MSc in Engineering*, Ecole Centrale de Lyon (ECL), Lyon, France
*1998 – 2001 BA in Economics,* Université Lyon 2, Lyon, France

## PROFESSIONAL EXPERIENCE

2017 - Present, *Executive Vice President and Head of Energy Practice*, Compass Lexecon, Paris
2013 - 2016, *Senior Vice President and Head of Energy Practice*, Compass Lexecon, Paris
2011 - Present, *Associate Professor in Economics*, University of Paris Dauphine
2011 - 2013, *Senior Director, Head of European Power, Renewables, and Carbon Consulting Team*, IHS CERA
2010 - 2011, *Director, European Gas, Power, and Renewables*, IHS CERA (Cambridge Energy Research Associates)
2008 - 2009, *Associate Director, European Gas and Power*, Cambridge Energy Research Associates
2006 - 2008, *Senior Economist, Power Sector and Renewables*, International Energy Agency (IEA), OECD
2002 - 2005, *Independent Consultant and Associate Researcher*, Electricity Policy Research Group, University of Cambridge (UK).

## SELECTED PROFESSIONAL ENGAGEMENTS

### Commercial / International Arbitration Energy Disputes

- Nuclear plant drawing rights in Germany and Belgium. In the context of an international arbitration dispute between two European utilities about nuclear drawing rights taking the form of a power purchase agreements in Germany and Belgium, I provided expert economic support on the regulatory issues and valuation of the damages.

- Mandated nuclear plant closure in France. In the context of a dispute between EDF and the French government about the mandated closure of the Fessenheim nuclear plant, I provided an expert report on the financial compensation of EDF for the loss of revenues.

- International power producers in Pakistan. In the context of an international arbitration, I supported IPPs in Pakistan to evaluate claims associated with payment arrears for gas plants.

- Lignite plant in Slovenia. In the context of an international arbitration dispute between a utility and a power plant EPC company, I provided estimates of the loss of profits associated with the delays and cost overruns in the commissioning of the power plant.

- Waste to energy plant in Bahrein. In the context of an international arbitration dispute between an EPC company and the Kingdom of Bahrein, I provided analysis of the project financing issues and a quantification of the lost profits.

- Coal plant operator in Bulgaria. In the context of a dispute between an international investor and the Bulgarian government about the payment of arrears associated with a power purchase agreement in Bulgaria, I provided support in the state aid investigation of the power purchase agreement by the European Commission.

- Coal plants in Spain. In the context of a dispute with the Spanish regulator and competition authorities, I evaluated the plant costs and revenues since the liberalisation of the Iberian power market in order to counter claims for excessive returns.

- Coal plant in Portugal. In the context of a dispute between the Portuguese regulator and an independent power producer about the taxation of coal, I provided support to the plant operator.

- Hydropower plant in Serbia. In the context of an international arbitration, I provide expert support to evaluate the loss of revenues associated with alleged failure to upgrade a plant to a satisfactory level of performance.

- Gas plant shareholder's dispute in Luxembourg. In the context of the shareholders dispute for a gas plant located in Luxembourg, I quantified the value of the hedging services provided to the plant by the utility under the power purchase agreement.

- Coal plants in Poland. In the context of the possible introduction of an emission performance standard for coal and lignite plants in Poland, I evaluated the profitability and potential impact of such measure on coal and lignite plants.

- Gas, coal and hydro plants in Portugal. In the context of a dispute with the Portuguese regulator about taxation of gas, I audited the methodology proposed by the regulator to tax part of the windfall profits resulting from different fuel input taxation in Spain and Portugal. This involved a quantification of the loss of revenues for both thermal and hydropower plants associated with the measure.

- Gas plant in the Ivory Coast. I supported the national utility in the negotiation of an IPP contract for a new build gas plant.

### Power Purchase Agreements - Renewables

- Solar plants network connection disputes in France. I supported the main French electricity distributor in a series of commercial disputes with solar producers about claims for losses associated with delayed connection to the network in the context of a decrease of the electricity tariff. This involved writing expert reports and expert testimony in various French courts on > 70 disputes.

- Connection framework and PPA arrangements for wind and solar IPPs in Tunisia. I provided support in defining the connection framework for IPPs and the PPA arrangements by carrying an international benchmarking exercise and considering the local specificities in Tunisia. I also developed proposal for the network tariff connection charging approach.

- Support mechanism definition and PPAs for renewables in Morocco. For a large institutional investor, I provided support in defining the investment strategy for wind and solar assets in Morocco backed up by PPAs.

- Review of PPA arrangements for a Greek utility. I provided a review of electricity market design in other jurisdictions with a specific focus on long term off take contracts for renewables.

- Regulatory review of PPAs for a Portuguese utility. I provided expert support in the discussions with the Competition authority about the impact of long term contracts for hydro power plants on the bidding behaviour.

- South African renewables developer. I provided expert advice for the structuring of long term power purchase agreements with offtakers. This included a modelling of the magnitude of risks associated with different contractual approaches.

- Wind PPA in Ireland. For a large industrial, I provided expert support to negotiate a PPA with a wind farm in Ireland.

- Wind PPA in Finland. I provide expert support in the context of the negotiation of a long term PPA with a wind farm in Finland to provide electricity to a datacentre.

- Wind PPA renegotiation in Germany. In the context of the financial restructuring of an underperforming wind farm in Germany, I provided support in the renegotiation of the PPA.

- Hydro and nuclear plants in Spain. In response to the Spanish Competition Authority' inquiry into the bidding strategy on the Spanish pool market during a period of high prices, I audited the bidding and hedging strategy of

the company. I provided additional support in dealing with concerns about vertical integration and potential regulation of low variable cost technologies such as hydro and nuclear.

- Global renewables power producer in Bulgaria. In the context of dispute with the Bulgarian government, I provided support to renegotiate wind plants PPAs under the new support schemes. This involved a quantification of the damages resulting from changes in the support scheme.

- Wind offshore PPA in France. For a consortium of utilities participating in the French offshore wind tenders, I provided support in determining the level of the PPA and adequate

- Wind offshore PPA in the Netherlands. For a European utility bidding into the Dutch offshore wind tenders, I provided support in determining the level of the PPA and adequate

### Fuel Supply Contracts for Power Plants

- Norvegian gas supplier. Review of strategic options for entry into the European power generation market. Modelling of intrinsic and extrinsic value of gas to power strategy. Screening of opportunities in different European countries.

- Coal and lignite supply agreement in Bulgaria. I supported an international investor in the context of the renegotiation of a lignite supply and PPA contracts for a plant in Bulgaria.

- Quantification of coal – gas switch potential. For a large utility, I developed models to assess the potential for coal to gas switching and the potential impact on gas demand in European power markets.

- Gas supply contract in the Ivory Coast. I provided advice in negotiating a gas supply contract with a group of international gas suppliers, including the definition of contractual indexation.

- Review of gas supply and contracting strategy in Europe. For a large utility, benchmarking of European power producers' gas supply and contracting strategies. Modelling and assessment of impact of different gas indexation approaches on asset portfolio profitability and risks exposure.

- Review of gas strategy for a Polish gas supplier. Definition of scenarios and modelling of fuel, carbon and power price outlook in Poland taking into account the potential development of shale gas.

- Gas use in power sector for an oil and gas company. Modelling of gas use into the European power sector. Definitions of scenarios to 2030 in different European countries and modelling of implications for gas demand.

- Gas sourcing strategy. For a Dutch utility, definition of scenarios to 2030 and projections of fuel, carbon, and power prices in the CWE markets.

### Competition / State Aid Cases

- Independent power investor in France: in the context of the investment in a gas plant in Brittany, I provided support to the plant shareholders to justify the plant long term power purchase agreement compatibility during the state aid inquiry from the European Commission.

- French TSO: in the context of the implementation of the French capacity market, I provided advice to the French TSO in order to justify the compatibility of the scheme with European state aid regulation, including long term contracts for new entrants.

- MacQuarie Investment Fund: I provided economic evidence and supported our client in their interactions with DG Competition officials during the State Aid investigation process of the UK capacity market. In particular, we focussed on the potentially discriminatory treatment of existing and new plants with regard to long tenor capacity contracts.

- Italian TSO: in the context of the implementation of the Italian market for reliability options, I provided advice to the Italian TSO in order to justify the compatibility of the aid with European state aid regulation, including long term contracts for new entrants.

- EDF Energy: I provided economic support in the State Aid review process by the European Commission of the contract for difference for the Hinkley Point C nuclear power plant in the UK. I provided economic evidence and

supported our client in their interactions with DG Competition officials during the State Aid investigation process.

- ENEL: in the context of the sale of the assets from ENEL to EPH, I provided economic advice on the definition of the relevant market and the potential for vertical foreclosure and horizontal effects of the merger.

- French utility - Economic support in a merger review by the French Competition Authority. We provided economic evidence of the effects on competition in the different markets for energy services of the merger of a large utility with an energy services provider in France.

- Linklaters - Study investigating impact of capacity mechanisms and State Aid issues associated with their deployment in different European countries. The study was published as a thought leadership report from Linklaters and a couple of marketing events organized in Brussels and in London to present the key findings to relevant stakeholders.

### Electricity Market Design

- ALPIQ – Review of Swiss electricity market design. We provided a study of possible reforms of the Swiss electricity markets to allow reinvestment in hydro power plants.

- ELES (Slovenian TSO) - Assessment of security of supply outlook and need for capacity mechanism. We evaluated the outlook for security of supply (both in terms of adequacy and in terms of ancillary services) in Slovenia in different scenarios depending on plant retirements. We evaluated the outlook for profitability of the different plants on the system and derived estimates of the missing revenues. We provided a set of policy recommendations to ensure security of supply in both the short term and medium term.

- MacQuarie Investment Fund- Study on impact of long term contracts for new build in UK capacity market. We assessed the potential distortions introduced by the differentiated treatment of existing and new plants in the UK capacity market, and evaluated the impact of long tenor capacity contracts on the UK capacity market dynamic and prices.

- UFE - Outlook for security of electricity supply in France and Germany. The study evaluated the pros and cons of a common approach for a capacity mechanism.

- RTE - Modelling of impact of French capacity market on power prices in France and neighbouring countries. We used our proprietary models to assess the impact of the French capacity market on power prices in France and neighbouring countries and compared this with the impact of other types of market interventions including renewables support policies, the UK carbon price floor, or the implementation of a strategic reserve in Germany.

- European utility – Strategic options for participation in French power and capacity market. In the context of the construction of a new cable between the Channels Islands and France, we supported our client by investigating options for participation in the French capacity market and helped them to define their strategy.

- Union of French Electricity Producers (UFE). Evaluation of US experience with capacity markets: best practice design and implementation, impact on energy market, investment and decommissioning strategies. Discussion of applicability to the French power market.

- PPC - Reform of Greek capacity payment. We provided an independent report evaluating the outlook with security of supply in Greece (both in terms of generation adequacy and flexibility requirements) and a critical review of the prosed approach by the regulator. We provided suggestions for alternative capacity and flexibility remuneration schemes.

- For a group of European utilities. Built scenarios of capacity mechanisms implementation in different European countries, and modelled the likely implications for power prices, and revenues for thermal plants. Assessed the evolution of investment opportunities and retirement decisions in these different scenarios.

- French utility. Definition of regulatory scenarios for the implementation of capacity mechanisms in Europe and modelling of impact on thermal plant profitability of the 10 largest players.

- Union of French Electricity Producers (UFE). Support to define the association response to the regulator's consultation on the implementation of a capacity market. Definition of key parameters.

- Belgian TSO. Support in the implementation of a strategic reserve of plants and demand response to guarantee generation adequacy. Identification of different bidding strategies and conditions for participation in the market of the contracted strategic reserves, modelling of effect on the spot market.

- Belgian TSO. Review of experience with capacity mechanisms globally. Pro and cons of different approaches. Special focus on the role of the Transmission System Operators in the different types of capacity mechanisms.

### Regulatory Issues in Electricity Markets

- Greek utility. Provided an audit of the existing market arrangements. Reviewed the French experience with regulation of nuclear assets and VPPs, and discussed the applicability in the Greek market to regulate hydro units

- Spanish utility - Evaluation of power price distortions caused by Spanish support mechanisms for renewables and CHP, and review of alternative support mechanisms designs. Review of theoretical and practical approaches to differentiate revenues of low variable cost generation versus high variable cost generation technologies in power markets.

- Development Bank of Japan. Review of power market liberalisation globally, and key lessons in view of the liberalization of the Japanese electricity industry. Focus on Europe with deep dives on the UK, France, Germany.

- Sun'R smart Energy - Mapping of the regulatory arrangements for demand response and storage in different European countries. We identified best practice and focussed on a number of detailed case studies (Belgium, the UK, and Germany).

- French utility. Provided a review of the economic rationale and international experiences with locational differentiation of network use charges. Evaluated the pro and cons of different approaches and some possible directions for implementation in the French context.

- European TSO - Identification of different regulatory models for demand response participation in power markets. We surveyed the different regulatory in place in different countries in Europe and in the US. Specific attention was paid toward the issue of the contractual relationships between the aggregator, the supplier, and the TSO, as well as the balancing obligations on aggregators. We evaluated the pros and cons of the different models.

- Gas storage operator - Outlook for flexibility and storage in the French gas market. We used our proprietary gas market models to provide a set of gas supply and demand scenarios and evaluate the need for flexibility on the French gas market on different time frames (seasonal as well as daily flexibility).

### Investment and Strategic Support and/or Opportunities Screening

- Private equity investment fund - Review of market potential for storage and demand response in Europe. This involved mapping of potential companies in need of investment, and critical assessment of their business model to define shortlist of targets to approach.

- Ukrainian investment fund. Review of investment opportunities in the European power sector. Focus on distressed assets following the economic downturn, screening of opportunities.

- Pont Sur Sambres S.A. (plant owned by KKR) – Strategic support to define approach towards monetization of capacity certificates. In the context of the implementation of the French capacity market, we provided a set of capacity price forecasts testing the impact of different strategies of our client's competitors and supported our client in the definition of his capacity certificates' sale strategy.

- Independent power producer. Analysis of Turkish gas market: supply and demand outlook, opportunities screening and market entry strategy.

- US based investment fund. Assessment of investment opportunities in the German electricity and gas markets, supported by modelling of market dynamics: demand, supply and prices outlook to 2030.

- Large European power plant manufacturer. Evaluation of market potential for thermal plants globally. Specific focus on European power markets for the different technologies: coal, gas, and nuclear.

- European utility - Series of three days intensive training programs for top executives. The program includes a range of theoretical lectures on electricity and carbon markets, as well as a number of role plays and strategic games to reflect on new challenges facing the industry and the pros and cons of different strategies.

- Korean power plant manufacturer. Review of market opportunities for different generation technologies globally.

- Swiss utility. Strategic support for potential entry in French power market. Definition of market entry strategy.

- Abu Dhabi Investment Fund. Strategic support for power market entry strategy in several countries. Definition of key criteria for project selection and screening of opportunities globally.

- South African utility. Review of strategic implications of market liberalisation based on experience in other jurisdictions. Implications for the utility and review of potential policy changes, ranging from future privatization, forced asset divestment, and / or corporatization; definition of a roadmap to ensure financial viability and redefine portfolio whilst maintaining sufficient investment to guarantee security of supply.

### Tariff Design / Network Regulation

Fabien worked on a range of market design and network regulation issues on topics including market power mitigation, network regulation, and power market design issues (such as capacity markets, balancing mechanisms, ancillary services procurement, renewables integration):

- French DSO - Definition of the distribution tariff. In the context of the French electricity distribution tariff review, we provided an economic analysis of the possible alternative tariffs designs and benchmarked a number of European countries to identify best practice. We provided alternative approaches for the evolution of the distribution tariff structure recognizing the new challenges faced by DSOs.

- Direct Energie - Feasability study for implementation of locational signals for power production. We reviewed the theory and a number of case studies of different approaches to provide locational signals to generators in power markets (locational / nodal energy or capacity prices, differentiated network connection and usage charges) and assessed their pros and cons for an application in France.

- European TSO - Review of key drivers of change for TSO's business model in Europe. In the context of an interactive strategy brainstorming workshop gathering top executives, we provided a review of the key challenges and opportunities for TSOs in Europe and led an interactive strategy review discussion.

- Linklaters - Report investigating recent trends in Europe for infrastructure finance. We conducted a number of investors' interviews to understand how regulation and the policy and economic environment affect the attractiveness of infrastructure assets in different European countries. We identified a number of emerging trends as well as new asset classes which offer promising prospects.

- National Grid - Interconnectors' valuation. We provided revenue forecasts in different scenarios and helped define the business case for the investment decision in the NEMO cable connecting Belgium and the UK.

- ELIA - Evaluation of different approaches for cross border participation in capacity mechanisms. We investigated in particular the issues associated with coincidental scarcity situations and the interface with market coupling. We developed a multi criteria assessment of the different approaches and evaluated the best option in the specific case of Belgium. We also investigated the strategic implications for our client and proposed a set of concrete actions.

- RTE - Comparison of the impact of different approaches to allow cross border capacity to participate in the French power market. We evaluated the pros and cons of different approaches, and we used our proprietary model of European power markets to test the impact of different models for participation of foreign capacity in the French capacity market.

### Commodity Markets Modelling and Scenario Planning

- National Grid - Definition of European scenarios for the power sector. In preparation for strategic decisions on new interconnectors' investment, we worked with our client to establish three alternative scenarios taking into account a range of uncertainties affecting the outlook for the European power sector.

- Swedish utility - Outlook for European power prices. In the context of the company strategy review, we used our proprietary models to provide a set of power price projections for key European markets and identify the key drivers and sources of uncertainty for our projections.

- UK based consortium of large energy users. European commodity price forecasting, scenario definition and strategic advice in fuel, power and carbon trading strategies.

- Sun'R smart Energy - Support to build and calibrate a dispatch model as well as a model of the French power reserves and capacity markets. Our team worked alongside the client over a two year period to develop a cutting edge integrated modelling capability of the different sources of revenues on the French power market.

- With the International Energy Agency (IEA). Fabien contributed to the modelling of the World Energy Outlook scenarios, and initiated the coupling of the IEA energy model with a general equilibrium model to assess the macroeconomic implications of different energy and climate scenarios globally.

- British telecommunications company. Recurrent support for commodity sourcing strategy, including market price forecasting for coal, gas, carbon and power prices as well as key regulatory issues.

- Dutch utility. Review of critical market and regulatory uncertainties shaping the future of European electricity markets. Definition of European energy scenarios, and modelling of the outlook for power demand, capacity additions and retirements, reserve margins, and power prices.

- European association of electric appliances and services manufacturers. Developed a bottom up model of energy savings potential in the residential, commercial and industrial sectors. Built power demand model of the industrial and residential sector incorporating different assumptions on the development of energy efficiency.

- French start-up. Supported the development of the modelling tools to optimize the operations in different electricity market time frame of a combined solar PV and storage facility.

- British transmission system operator. Support in the investment decision for new interconnection cables to the continent, including the definition of European scenarios for power markets, and testing of the robustness of the business plan against the downside scenario.

- Swiss utility. Support for an investment decision involving power market modelling for the UK and Finland (demand, supply, and prices).

- Italian utility. Construction of power and gas demand models for the key European countries as well as Latin American countries. Training of staff on models and yearly maintenance of models.

### Commercial and Regulatory Due Diligence

- Large UK utility. Commercial due diligence of CCGTs in the UK and in the Netherlands. Stochastic modelling of revenues taking into account key market and regulatory uncertainties.

- French power distribution company. Review of distribution networks in Kuwait and Brazil. Description of regulations, review of key issues.

- Swiss utility. Commercial due diligence of hydro concessions. Integrated revenue forecast involving modelling of electricity, capacity, balancing and ancillary services markets.

- Dutch investment bank. Commercial and regulatory due diligence for Turkish gas and power assets. Revenue forecast for CCGT plant and identification of key market and regulatory uncertainties.

- London based investment fund. Study evaluating the impact of regulatory changes on the value of transmission assets in Germany.

- Austrian utility. Commercial due diligence for CCGT plants located in France, Austria, and Italy. Modelling of likely revenues from electricity market, capacity market, and ancillary services in base case and downside case.

- For a French utility. Provided economic due diligence of a gas CCGT plant in France. Modelled anticipated revenues in different scenarios from electricity as well as balancing and ancillary services markets.

## European Energy and Climate Policy Issues

- Multi-client study (EDF, Engie, ENEL, ENDESA, EDP, ESB, Fortum) - Study of the required reforms of European power markets to support investment and maintain security of supply. The study provides a diagnostic of the issues associated with current electricity markets and surveys international experience with hybrid power markets in North and Latin America combining a role for the market with long term contracts and investment coordination and planning mechanisms.

- European Policy Dialogue. Sponsored by a group of European industrials, Fabien led / contributed to the IHS CERA European Policy Dialogue, a research based Brussels Forum sponsored by a range of stakeholders which covered issues such as power and gas market reform, network investment framework, renewables support schemes and the ETS market reform.

- French Commissariat Général à la Stratégie et à la prospective. Provided a report reviewing progress and issues with European power markets integration. Suggested a number of key improvements to the current European electricity market design.

## Climate Policy and Carbon Trading

- Friends of the ETS - Cost-benefit analysis of removing exemptions for ETS allowances for sectors at risk of carbon leakage. We provided a detailed bottom up modelling of profitability and margins in three sectors (steel, cement, and chemicals) and scaled up the results to the whole of the carbon leakage sectors. The impact in terms of profit margins for the sectors considered, as well as in terms of growth value added creation (GDP) and employment in these sectors were computed; the benefits to the whole EU economy from redistributing the increased auction revenue from government were modelled under different scenarios and the net benefits evaluated. The study was presented to a wide range of European stakeholders.

- Friends of the ETS - Stakeholder's outreach to disseminate findings of study on cost-benefit analysis of removing exemptions for ETS allowances for sectors at risk of carbon leakage. With the help of our Strategic Communication colleagues, we put together a structured outreach plan in key European countries and organized a series of bilateral meetings with relevant stakeholders as well as a media campaign. We also organized public events in Brussels and London to disseminate the findings of the study.

- European Trading Scheme (ETS). Built and maintained for the syndicated research service of HIS CERA a European ETS market model. Used this model to provide price forecasting, and assess the impact of key policy and regulatory uncertainties.

- Consortium of industrial stakeholders. Studied the macroeconomic impact of removing exemptions to the European Trading Scheme for sectors at risk of carbon leakage. Built bottom up models of economic value added and employment in the steel and cement sectors. Presented the results to various European and national policy makers.

## Renewables / Energy Efficiency

- GRT Gaz - Business models for Power to X applications. We provided a detailed analytical model to quantify the potential revenues and profitability of a Power to X facility and used it to explore different types of support mechanism and funding mechanisms to support deployment.

- Fluxys – Potential for green gas and hydrogen. As part of a study on the future role of gas in the energy transition Belgium, we reviewed the potential for green gas and hydrogen in Belgium.

- Review of possible support mechanisms for hydropower for a Swiss utility. Strategic advice in preparation of French hydro concessions tender. Review of regulations and license conditions for hydro plants. Screening of the different concessions, multi criteria analysis and definition of strategic approach.

- Moroccan renewables developer. I provided a review of the potential for geothermal energy in Morocco and advice on developing a supportive regulatory framework.

- Large energy intensive user. I provided advice in structuring the electricity procurement strategy for the datacentres of my client in Europe. I assisted in the screening of several power purchase agreements with renewables developers.

- Renewables developer - Strategy review. We provided a review of the key challenges and opportunities for renewables developers and led an interactive discussion with the management team which concluded in a set of recommendations for a strategy review.

- American investment fund. Provided expert economic advice on market evolution for wind power and power prices in the context of a wind farm transaction in Germany.

- Japanese investment fund. Provided expert economic advice on market evolution for wind power and power prices in the context of a wind farm transaction in Germany.

- Moroccan Caisse de Dépôt et de Gestion (CDG). Support in implementing the Moroccan solar plan: study of best practice for renewables support policies globally. Definition of the CDG investment strategy for solar, wind and biomass technologies.

- IEA-RETD - Study on power market to integrate significant shares of variable renewables. We identified the key desirable features of a sound market design in the context of high shares of renewables, and defined a number of alternative market prototypes to reflect the diversity of power system arrangements around the globe. For each prototype, we proposed a number of policy recommendations to drive a transition toward best practice market design.

- Sun'R smart Energy - Business model definition for a combined aggregation, storage, and renewables solution. This involved conducting a number of producers and aggregators' surveys to identify their positioning and their offering.

- EDF Energies nouvelles. Three days intensive training program for executives focussed on renewables. The program includes lectures on electricity markets and interactive sessions to identify new challenges and opportunities for renewable developers.

- Large American utility. Review of lessons from the European experience with decarbonization. Comparative assessment of the efficiency of different renewables support schemes, impact on power price of renewables development and on operation of thermal assets. Specific focus on Germany EEG energy transition.

- EDF - Assessment of external costs associated with different power generation technologies. In response to a study from the European Commission, we provided an assessment of the different types of externalities associated with a range of power generation technologies (thermal plants, renewables, nuclear) and quantified the associated costs based on a literature review. Particular attention was paid to evaluating the costs associated with nuclear front end and back end of the nuclear fuel cycle, as well as the costs associated with the grid integration of intermittent renewable energy sources

- European TSO - Identification of different regulatory models for demand response participation in power markets. We surveyed the different regulatory in place in different countries in Europe and in the US. Specific attention was paid toward the issue of the contractual relationships between the aggregator, the supplier, and the TSO, as well as the balancing obligations on aggregators. We evaluated the pros and cons of the different models.

- For a consortium of financial investors. Assessed the potential for renewables technologies in Europe (wind onshore and offshore, solar PV and CSP) in different scenarios taking into account the key policy and regulatory uncertainties. Discussed the different contractual approaches to support investment in renewables in Europe, and the likely evolution of the role of financial players in the value chain.

- Renewables division of large French utility. Review of main wind players' positioning on the value chain and in different countries. Wind market outlook in different countries globally.

- Dutch power producer. Valuation of coal plant and support for decision to convert to co-firing with biomass. Modelling of the Dutch gas and power markets: outlook for fuel, carbon and power prices and spark spreads.

- Renewables division of a Portuguese utility. Due diligence of wind assets with power price forecast and review of regulatory developments.

**Nuclear Power Investment And Financing**

- Consortium of UK based industrials. Modelling of the option value of new nuclear in the UK as a hedge against fuel and carbon price risks. Evaluation of steps and conditions for new nuclear built in the UK.

- Modelling of nuclear fuel cycle. As IEA economist, modelling of scenarios for supply and demand or uranium, enrichment, and conversion markets. Implications for evolution of prices in different scenarios to 2050.

- Large US utility. Support in investment and financing of nuclear plant. Identification and segmentation of risks, review of possible contractual arrangements based on international past experiences, and support for the structuration of the financing arrangements.

- Russian energy player. Regulatory and market review of the Turkish power market. Special focus on due diligence of AKKUYU nuclear power plant.

- Nuclear plant supplier based in the US. Review of outlook for nuclear power in Bulgaria and the Czech Republic. Definition of key drivers and key uncertainties shaping the decisions to go forward with new nuclear investment, construction of scenarios.

- Small modular nuclear reactors manufacturer. Evaluation of potential market for small reactors (> 300 MW) globally. Definition of key drivers of choice of plant size, screening of different markets, prioritization of international development strategy.

- French utility. Reviewed the different costs associated with different generation technologies. Provided a robust economic categorisation of the different types of costs and subsidies, and discussed in details the specific costs associated with nuclear power production.

### Executives Training

- French utility. Support for definition and implementation of managers' training program. Development of 3 days program reviewing the history of the European electricity industry, the impact of liberalization, and a review of key competitors' strategies.

- Korean power plant manufacturer. Support in prioritization of marketing efforts. Preparation of material and delivery of training for senior sales managers.

- French utility. Development of training material for Asian based managers on global power markets. Delivery of Executive training workshop in China.

- French-Belgium utility. Support in production of a quarterly newsletter analysing the key market news and regulatory changes in global commodity markets with a focus on Europe.

## PUBLICATIONS

### Professional Publications

Toward the Target Model 2.0 – Policy Recommendations for a sustainable market design. FTI-CL Energy report, July 2015. Available at: http://www.fti-intelligencestore.com/Toward-the-Target-Model-2.0

Demand Side Response: Sources of Value and Potential Business Strategies. FTI-CL Energy Point of view. April 2015.

Lessons from the first UK capacity market auction. FTI-CL Energy Point of view. January 2015.

The new European Energy Union - Toward a consistent EU energy and climate policy? Study for France Stratégies, Decembre 2014. Available at: http://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/roques_cgsp_toward_a_european_energy_union_final_version_0.pdf

European Electricity Markets in Crisis: Diagnostic and Way Forward. Study for the French Commissariat Général à la Stratégie et à la Prospective (CGSP). Novembre 2013. Available at: http://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/Roques_CGSPreport_12November20131.pdf

Capacity markets. Re-igniting Europe's Energy Market. A Linklaters publication. June 2014.

The Impact of the EU ETS Exemptions on Economic Competitiveness. An FTI-CL Energy Intelligence report. March 2014.

European Electricity Markets in Crisis: Diagnostic and Way Forward. Report for the French Commissariat Général à la Stratégie et à la Prospective, December 2013.

Keeping Europe's Lights On: Design and Impact of Capacity Mechanisms. IHS CERA Multi Client Study, 2013.

The Investment Imperative. IHS CERA European Policy Dialogue, 2012.

A Clean Slate: Financing Europe's Renewables Deployment. IHS CERA- Emerging Energy Research Multi Client Study, 2011.

European Power Market Outlook. Editor of quarterly research note describing key policy and market developments for European Power Markets. IHS CERA, 2008-2013.

European Carbon Market Briefing. Editor of Quarterly research note on European Emission Trading Scheme, IHS CERA, 2008-2013.

Utilities financial tracker. Annual publication, IHS CERA, 2008-2013.

Hydropower tracker. Editor of quarterly publication, IHS CERA, 2008-2013.

European Country Profiles. Annual update of country profiles for 36 countries. IHS CERA, 2008-2013.

World Energy Outlook 2005-2006-2007. Contributed to scenarios modelling and took responsibility for modelling and write up of power generation sections.

Nuclear power outlook, chapter of World Energy Outlook 2006. International Energy Agency publication.

The costs of electricity generation, contributed to analysis and write up, an IEA/NEA study, 2006.

The impact of Chinese and Indian economic growth on energy demand and CO2 emissions, chapter of World Energy Outlook 2007, International Energy Agency, 2007

Security of UK Electricity Supplies. Note of UK Parliamentary Office of Science and Technology (POST), 2003.

ETS Vote Marks New Low, and Renewed Opportunity, for Carbon Market Reform, IHS CERA Report (April 2013)

Small but Powerful? Wood pellets in the global fuels league and European power markets, IHS CERA Report (Feb. 2013)

Balancing Services in Europe: Growing Role amid Patchwork Playing Field, IHS CERA Report (Jan. 2013)

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## AWARDS AND MEMBERSHIPS

### Professional and Academic Memberships

- Member of the French energy regulator (CRE) expert group "Comité de Prospective"
- Member of POWER-GEN Europe Advisory Board.
- Scientific Director of the European Electricity Markets Chair from Paris Dauphine University.
- Associate researcher of the Cambridge University Electricity Policy Research Group (EPRG).
- Member of the governing board of the French Association for Energy Economics Association (FAEE).
- Editorial board member of the Journal Economics of Energy & Environmental Policy (EEEP), and of the Revue de l'Energie.
- Invited reviewer for the academic journals: RAND Journal of Economics, Journal of Economic Dynamics and Control, Utilities Policy, Energy Journal, Energy Economics, Energy Policy.

### Awards and Scholarships

- Hans Jurgen Ewers prize for applied research in infrastructure economics 2008.
- Entente Cordiale Scholarship. British Council and Isaac Newton European Research Felowships.
- Member of POWER

## WORKING PAPERS

- Wind up with continuous intraday electricity markets? The integration of large-share wind power generation in Denmark, CEEM, Université Paris-Dauphine
- Revisiting short-term price and volatility dynamics in day-ahead electricity markets with rising wind power, 2015. CEEM, Université Paris-Dauphine
- Electricity consumption and economic growth: exploring panel-specific differences. 2014 working paper series, IPAG Business School
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## LANGUAGES

- French (native)
- English (fluent)
- German (advanced)