



**Joanna C. Martin Ziegenfuss**  
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## SUMMARY

Ms Joanna Martin Ziegenfuss, Associate Director of BRG's Energy Practice offers 13 years of commercial, market and technical experience in the global energy industry. Her expertise encompasses small-scale liquefied natural gas, liquefied natural gas, crude oil, power generation, renewable energy, and energy assets environmental assessment. She has led commercial and economic analysis, regulatory, market and risk assessments, asset due diligence, strategic investments, and environmental impact assessments.

Ms Martin Ziegenfuss's key expertise is in LNG and small scale LNG market analyses and project feasibility assessments for end-users seeking cost savings, and infrastructure developers seeking investment opportunities. She also has a proven track record of project due diligences with experience spanning upstream offshore and onshore developments to downstream developments including refineries, oil and chemical products storage terminals and LNG regasification import terminals.

Ms Martin Ziegenfuss career has included a number of project management roles supporting financial transactions of oil and gas assets for international financial institutions, investment banks and private equities. She has also project-managed grassroots asset development feasibility studies for sovereign entities and major international oil companies.

Her oil and gas expertise is underpinned by a strong environmental background gained in her earlier career, when Ms Martin Ziegenfuss worked as an environmental specialist on upstream development feasibility, concept and pre-FEED designs, and as an environmental advisor for an international oil company ensuring environmental compliance.

Ms Martin Ziegenfuss has undertaken project work in the following countries: UK, Germany, France, Netherlands, Algeria, Egypt, Oman, Pakistan, Afghanistan, Kenya, Uganda and the US.

## EDUCATION

MBA. Strategy, Economics and Finance

APMP qualification

CEnv. Chartered Environmentalist

Level 3 City & Guilds Cert. in Petroleum Processing Technology

MSc. Marine and Fisheries Science

BSc. Hons. Marine Biology

Cranfield School of Management, UK

Association of Project Managers, UK

Society for the Environment, UK

OPITO, UK

University of Aberdeen, UK

University of Wales, Swansea, UK

## PREVIOUS POSITIONS

2015 - 2017: *Independent Energy Consultant, Washington, DC, US*

2013 - 2015: *Senior Project Manager, Pace Global / Siemens, London, UK & Washington, DC, US*

2011 - 2013: *Senior Consultant, Mott MacDonald Ltd, London, UK*

2004 - 2011: *Consultant, Genesis Oil & Gas Consultants Ltd, London, UK*

2000 - 2004: *Marine Biologist, Fisheries Research Services, Aberdeen, UK*

## PROFESSIONAL EXPERIENCE

### LNG Commercial and Technical Projects

- **Commercial strategy for global gas and LNG portfolio design, marketing, and pricing for a global LNG supplier.** Project managed the global LNG and European natural gas teams in advising a global LNG supplier on its commercial strategy for long- and short-term LNG sales and pricing over the coming decade. This involved detailed analysis of global gas and LNG supply, demand, flows, contracts, and pricing in the short- and long-term markets.
- **Expert risk and market evaluation of energy infrastructure loans across the globe within a \$3 billion portfolio of energy loans for an international investment fund.** Led the analysis of key market, commercial and geopolitical risks on the return on investment for each asset. Assets reviewed included;
  - 10 LNG assets across U.S, U.K, Australia, Papua New Guinea, Mexico and Singapore
  - 7 gas power plants across the U.S, Philippines, Mexico, Oman, Saudi Arabia
- **Onshore LNG regasification terminal in Mombasa for the Kenyan Ministry of Energy.** Led the project management, market research, analysis and a multidisciplinary team of engineers and financial experts to develop the financial, engineering feasibility as well as an environmental impact assessment of the proposed terminal.
- **Pre-investment Due Diligence for a floating regasification LNG terminal project in Pakistan for an International Financial Institution.** Analyzed the validity of CAPEX, OPEX and technical assumptions, working with a multidisciplinary team of engineers to assess the reasonableness of the business model in view of the market, environmental compliance and operations management. Resolutions and mitigation measures of identified key risks were recommended to resolve and reduce the client's risk exposure.
- **Floating Liquefaction Facilities (FLNG) development costs for an oil major.** Review on FLNG development costs and schedules worldwide to support a project screening process.

## Small Scale LNG Market and Commercial Analysis

- **North American LNG peakshaving plant functionality change evaluation for the American Gas Association.** Undertook a review of drivers and inhibitors to the expansion of LNG peakshaving plants' primary functionality to a merchant functionality in order to service the SSLNG market.
- **U.S. LNG trucking standards and codes gap analysis for the American Gas Association.** Analyzed the status of the U.S. LNG vehicle market, and factors mitigating its growth. Identified steps to resolve the disparity in standards and codes to facilitate the adoption of LNG in the natural gas vehicle market.
- **North American market analysis of LNG adoption across various sectors for a Global oil and gas equipment manufacturer.** Identified key sectors and markets for the client's 6,000 gpd liquefaction technology. Forecasted LNG adoption by 2020 and 2035 in the US, Canada and Mexico in the following sectors: oil & gas drilling and flaring, industry, remote communities and mining. Advised on potential revenue and key market strategic approach.
- **US & Canada market analysis of LNG adoption by region in key markets by 2025 for a Japanese investment corporation.** Undertook a Comprehensive analysis of potential LNG demand growth and value in key markets (marine bunkering, trucking, mining, rail, oil and gas, and off-grid industry) by region. Analysis based on diesel demand growth and end-user LNG adoption model. Presented LNG supply overview, technology developments, costs by markets and strategic assessment of most profitable market and region for client to target.
- **Mine site haul trucks LNG conversion and financial analysis for a US LNG project developer.** Undertook a mining haul trucks LNG conversion analysis (fuel consumption, opex and capex) in support of financial transaction.
- **Positioning of small scale LNG liquefaction technology and approach to market for a US oil and gas equipment manufacturer.** Assessed the potential market for a 700 gpd liquefaction technology ahead of the client building a prototype. Undertook an evaluation of the client's liquefaction technology market positioning based on technology performance and competitive advantages. Proposed business models in key niche markets based on the client's technology competitive advantages.
- **150,000 gpd LNG liquefaction facility off-take market analysis for a US Private Equity firm.** Assessed the financial viability of a liquefaction plant based in Texas ahead of the FID. Analyzed the future potential LNG demand from regional key markets including: E&P drilling and fracking, trucking and marine bunkering, and competition from proposed and existing regional liquefaction plants. Forecasted off-takers demand and plant potential revenue and ROI, as well as competing risks from regional export plants.

- **Analysis of LNG bunkering fuel costs for a new dual fueled barge for a US Private Equity firm.** Analysed the financial benefits of investing in an LNG dual-fuel articulated tug barge, including the supply and pricing of LNG and competing fuels along the Louisiana and Florida coast line. Assessed the cost benefit of LNG fuel and ROI and identified the most economical locations to source LNG fuel.
- **Pre due-diligence assessment of two liquefaction plants on US Gulf Coast for a US Private Equity firm.** Undertook a high level review of proposed projects to gauge whether they were worth investing the expense to undertake due diligences and sign associated term sheets. Reviewed pricing and tolling assumptions in relation to the facilities respective markets, capital cost evaluation of both facilities, typical project development activities, regulatory process and financial structuring schedule. Presented a risk assessment of reviewed items.
- **US West Coast LNG bunkering demand analysis by 2025 for a US Utility.** Assessed the LNG bunkering adoption along the West Coast of the US by 2025 and 2035 in key ports and regional LNG supply infrastructure development. Analysis based on marine bunkering end-user LNG adoption model and segmented by ship type. Delivered forecasted volumes and market value by key ports and identification of strategic location to extend client's business portfolio.
- **LNG adoption forecast in key markets in six US Northeast states by 2025 for a US Utility.** Undertook the analysis of the potential for diesel displacement by LNG in the following key markets: marine bunkering, trucking and industry based on diesel demand growth and end-user LNG adoption model. Delivered strategic insights on key favorable markets for the client to target and leverage existing natural gas assets to enter the CNG/LNG market.
- **LNG adoption along the Rhine Corridor for the EU LNG Masterplan for the Consortium of Rhine ports.** Undertook a comprehensive analysis of future LNG demand adoption in key markets (short sea shipping, inland waterways vessels, trucking and off-grid industry) along the Rhine corridor across the Netherlands, Belgium, France, Germany and Switzerland. Analysis based on diesel demand growth and end-user LNG adoption model and key national economic factors.
- **LNG and CNG vehicle European market study for a German Energy Company.** Undertook a comprehensive analysis of forecasted growth of CNG and LNG heavy duty vehicles in Northern Europe.

## Oil and Gas Project Feasibility Studies and Due Diligences

- **Grassroots refinery feasibility study in Afghanistan for a private consortium.** Led the project management, multidisciplinary team of engineers and financial experts to define a feasible design concept for a refinery in a remote location of Afghanistan.

- **200 million bbl. crude oil storage terminal feasibility study in the Middle East for a major oil company.** Led the project management, market research, analysis and multidisciplinary team of engineers and financial experts to develop the financial and engineering feasibility.
- **Pre-investment technical, operational and environmental due diligence of an onshore oil field in France with shale gas assets for an investment bank.** Analyzed the validity of CAPEX, OPEX and technical assumptions, working with a multidisciplinary team of engineers to assess the reasonableness of the business model in view of the market, environmental compliance and operations management. Resolutions and mitigation measures of identified key risks were recommended to resolve and reduce the client's risk exposure.
- **Pre-investment technical, operational and environmental due diligence of an onshore oil field in the UK for an investment bank.** Analyzed the validity of CAPEX, OPEX and technical assumptions, working with a multidisciplinary team of engineers to assess the reasonableness of the business model in view of the market, environmental compliance and operations management. Resolutions and mitigation measures of identified key risks were recommended to resolve and reduce the client's risk exposure.
- **Pre-acquisition due diligence on the infrastructure and operations of one of Europe's largest oil and chemical storage terminals in Rotterdam for an oil company** Analyzed the validity of CAPEX, OPEX and technical assumptions, working with a multidisciplinary team of engineers to assess the reasonableness of the business model in view of the market, environmental compliance and operations management. Resolutions and mitigation measures of identified key risks were recommended to resolve and reduce the client's risk exposure.

## Environmental Projects

### *Consulting Engagements*

- Market analysis of the Spanish and Italian renewable markets for a private consortium.
- Managed the environmental support for international upstream onshore and offshore projects run by blue chip energy companies in Europe, Algeria, Kazakhstan, Uganda and Egypt.
- Provided sustainable concept solutions to reduce upstream development projects CO2 foot prints thereby increasing energy efficiencies and reducing the environmental cost of project development.
- Undertook Environmental Impact Assessments of new upstream offshore installations in the North Sea and secured environmental consent applications and permits for offshore operations in UKCS.

### *Environmental Advisor to an International Oil Company*

- Managed the offshore installations daily environmental compliance for continuous legal operation.
- Successfully reduced the offshore installations' environmental foot prints by 10%, working with multi-disciplinary teams and developing corporate environmental KPIs.
- Responsible for selection and management of Project ESIA Consultants, preparation of tender documentation, technical scope of work and evaluating bids in tender reviews.
- Researched and appraised emerging UK and international environmental regulations to identify environmental trends and shape business decisions.

## PRESENTATIONS

- *The Role of FSRUs in the LNG Market*. LNG Global Congress Americas Conference, Houston, 2017.
- *ECA Update: Coastal Zone and Inland Waterways Shipping*. LNG Fuel Summit & LNG Fuelled Tugs and Barges Conference, New Orleans 2016.
- *LNG Lowdown: Changing Market Drivers*. LNG Fuel Summit & LNG Fuelled Tugs and Barges Conference, New Orleans 2016.
- *LNG Fuel: The Trailblazers*. LNG Global Congress Americas Conference, Houston, 2016.
- *US Shale Exuberance, the Prospects for U.S. LNG Exports*. 3rd Annual Global LNG Forum, Lisbon, Portugal, 2013.

## PUBLICATIONS

- *Will the US Make a Splash in China?* Lloyd's List Maritime Intelligence. June, 2017.
- *The Time is Ripe for Small Scale LNG*. LNG Industry magazine. October 2016.
- *LNG Fuel Remains Cost Competitive in Low Crude Price Environment*. Pace Global North American Distribution List, February 2015.
- *Electricity Capacity Mechanisms in France*. Pace Global European Distribution List. January 2013.

## PROFESSIONAL MEMBERSHIPS

- United States Association for Energy Economics, US
- Women's Council on Energy and the Environment, US
- Society for the Environment, Chartered Environmentalist, UK

## LANGUAGES

French (native), English (fluent), German (intermediate).