



AFRY Biomethane Services

Capability Statement

JUNE 2025

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1. ABOUT AFRY

At AFRY we accelerate the transition towards a sustainable society.
Our vision is Making Future

EMPLOYEES GLOBALLY

~ 19,000

(2024)

NET SALES

~ € 2.5 bn

(2024)

NUMBER OF COUNTRIES
WITH OFFICES

> 50

NUMBER OF COUNTRIES
WITH PROJECTS

> 100

AFRY TRANSFORMING SEGMENTS



CLEAN ENERGY



BIOINDUSTRY



INFRASTRUCTURE



FOOD AND LIFE SCIENCE

AFRY CORE EXPERTISE



ADVISORY SERVICES



ENGINEERING



DESIGN



DIGITALISATION

1. ABOUT AFRY

AFRY is organised in five divisions, with significant opportunities for synergy



MANAGEMENT CONSULTING

- **Energy**
- Bioindustry
- Sustainability
- Capital investment banking



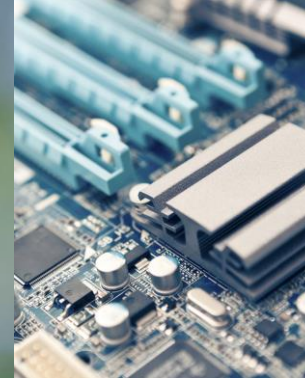
ENERGY

- Thermal
- Renewables
- Hydro
- T&D
- Nuclear
- Contracting



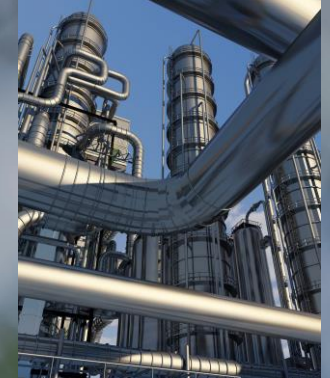
INFRASTRUCTURE

- Transportation
- Buildings
- Water
- Environment
- Architecture & Design
- Digital design



INDUSTRIAL & DIGITAL SOLUTIONS

- Advanced Automation
- Automotive R&D
- Experience Design
- Food & Pharma
- Specialised Tech Services
- Systems Management
- Cyber security



PROCESS INDUSTRIES

- Metal & Mining
- Pulp and Paper
- Chemicals
- Smart Site TM & Digitalisation

1. ABOUT AFRY

AFRY Management Consulting offices: a global presence



Our offices	
Americas	8
Europe	16
Asia	8
Oceania	1

Energy-related per year	
Projects	>1000
Clients	>600
Digital Subscribers	>230

1. ABOUT AFRY

About AFRY Energy consulting team: leading advisor for the transition of the energy sector



In numbers

>500 management consultants

5 continents

33 offices



Offering

Forward looking market analysis

M&A¹ and Transaction Services

Strategic advice

Operational and digital transformation

Close cooperation with the engineering, design, and digitalisation teams at AFRY



HYDROGEN & LOW CARBON GASES

- **Biomethane**
- **Feedstock**
- **Digestate**
- **CCS / CCU²**
- Green hydrogen
- Hydrogen storage
- Ammonia & methanol



POWER & HEAT GENERATION

- Thermal generation (coal, gas, nuclear...)
- Grid scale renewables (wind, solar, bioenergy)
- Hydro power & storage
- Waste to energy
- (green) district heating
- PPAs³



NETWORKS

- Transmission (electricity)
- Distribution
- Smart- grids and metering
- EV⁴ infrastructure
- System operation
- Market operation



FUTURE CITIES & MOBILITY

- EV charging
- Decarbonization of cities and transport
- New mobility services
- Smart city solutions and efficient Buildings

Notes: 1) Mergers & Acquisitions. 2) Carbon Capture & Storage / Carbon Capture & Utilisation. 3) Power Purchase Agreements. 4) Electric Vehicle.

Agenda

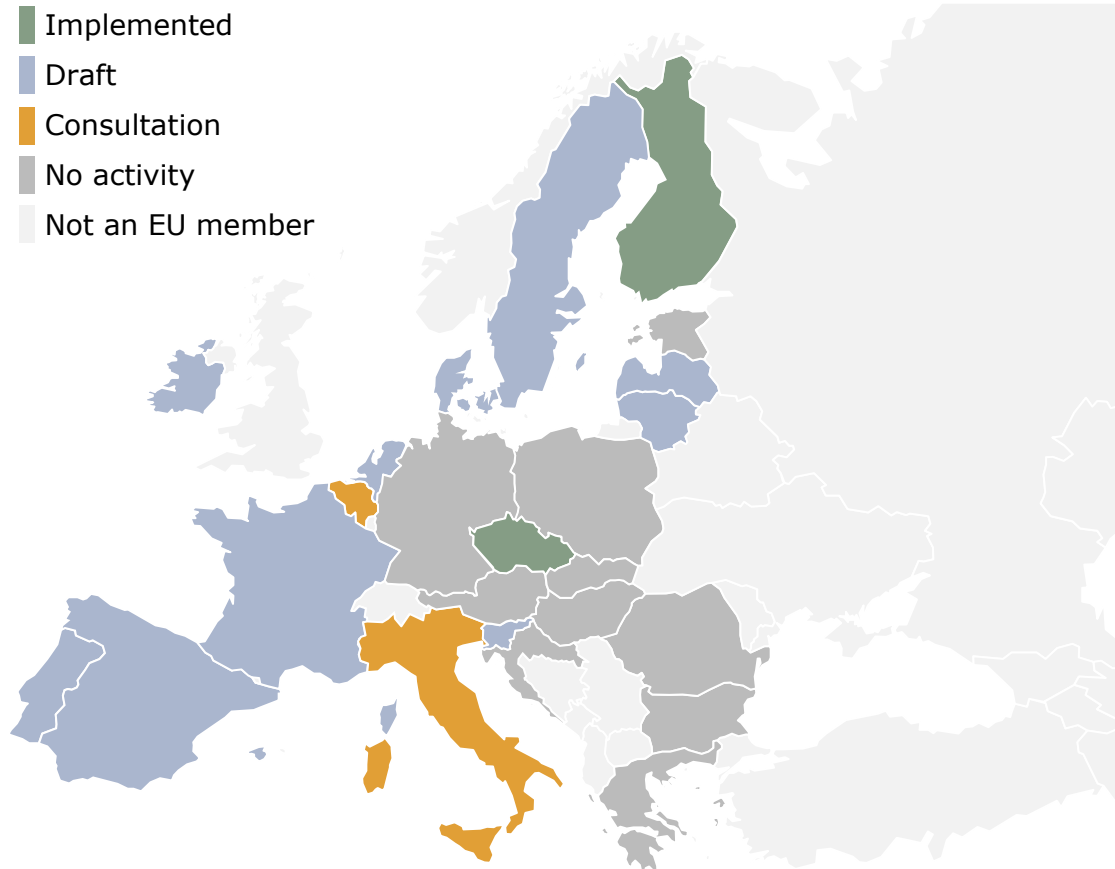
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2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

Updated rules and goals for biomethane use in transport and heating may be introduced with the conversion of RED III to national law over the coming months

OVERVIEW OF RED III IMPLEMENTATION, MAY 2025

- Implemented
- Draft
- Consultation
- No activity
- Not an EU member



COMMENTARY

- The biomethane target set by REPowerEU has been then included within the revised Renewable Energy Directive (RED III), which prescribes measures and goals to increase adoption of renewable energy across different sectors
- Among the others, the directive calls for an additional focus on biomethane, with more ambitious goals for its consumption and stricter sustainability criteria
- The RED III officially entered into force on 20 November 2023, with an 18-month period to transpose directive's provisions into national law
- Yet, at the time of writing, many Member States are lagging for the implementation of RED III into national legislation, despite the official deadline being expired by 21 May 2025
- Over the coming years, the update of national laws is expected to change the status quo of the biomethane market, considering:
 - Increased targets for renewable energy used in the whole transport sector and a dedicated alternative target for GHG reduction, which may push further the adoption of carbon-negative fuels such as biomethane
 - Stricter mandates in the industrial sector and a strengthened relationship with the ETS for inclusion of biomethane in zero-rated fuels, including biomethane

Sources: AFRY Insights



BIOMETHANE FEEDSTOCK

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

A range of routes to market options is available to biomethane suppliers in Italy, with different exposure to price and volume risks



INCENTIVISED

- Under the incentivised route, biomethane suppliers receive a top-up payment above the fossil fuel price
- This provides certainty over prices and volumes, typically over +10 years



HYBRID

- Under the hybrid route, biomethane suppliers receive a top-up payment above the fossil fuel price, however they are responsible for securing an offtake agreement
- This partly exposes suppliers to price and volume risks



MERCHANT / BPA

- Under the merchant route, biomethane suppliers are responsible for securing an offtake agreement
- This typically allows suppliers to secure agreements for export¹, targeting market segments where the product is valued the most

Notes: 1) Exports are typically prevented under the incentivised/hybrid business models, so that the biomethane produced is considered towards meeting national decarbonisation targets.

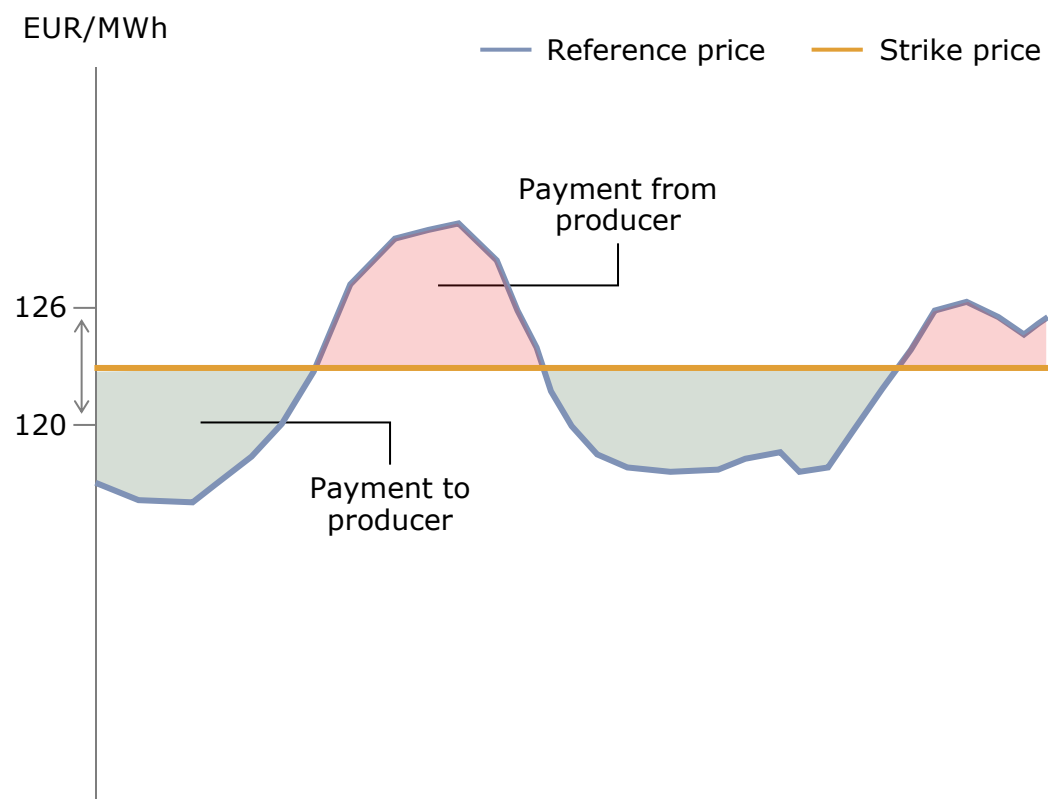


BIOMETHANE FEEDSTOCK

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

Through the DM 2022 incentive scheme, biomethane suppliers are partially hedged against price shocks, through a contract for difference mechanism

BIOMETHANE PRICE DRIVERS UNDER DM 2022 SCHEME



COMMENTARY

- The Italian Ministerial Decree introduced in September 2022 (DM 2022) supports biomethane production with grants up to 40% of eligible capital costs and 15-year incentive payments
- The scheme targets new plants or the reconversion of biogas plants to biomethane
- Under the scheme, biomethane prices are driven by the two-way Contract for Difference (CfD). Biomethane suppliers receive the strike price, determined competitively through auctions
- The payment from/to suppliers is based in the difference between the strike price and the reference price, which can fluctuate based on market developments
- Based on the plant size, the actual CfD remuneration may differ since suppliers may be responsible for striking contracts directly with buyers

Note: 1) Further details provided in [Section 6](#). Sources: DM 15 September 2022.

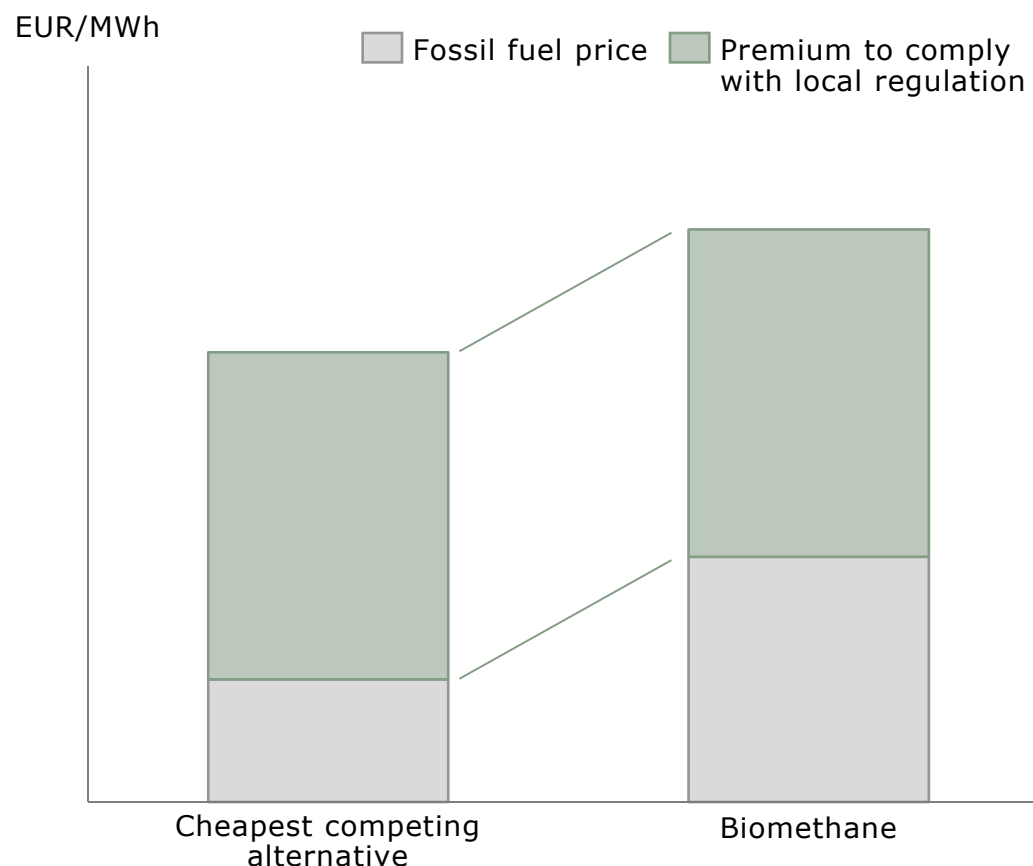


BIOMETHANE FEEDSTOCK

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

The drivers of biomethane sold on a merchant basis are the price of fossil molecules and of competing solutions to comply with local regulation

BIOMETHANE PRICE DRIVERS UNDER MERCHANT ROUTE



Note: 1) Further details provided in [Section 6](#)

COMMENTARY

- The price of biomethane/bioLNG sold on a merchant basis is driven by two factors:
 - The price of the fossil molecule, based on the relevant natural gas price (e.g., TTF, PSV, or LNG for bioLNG)
 - The minimum price of competing alternatives required to comply with mandates set by the local regulation
- The price required to comply with the regulation is highly dependent on the end-use sector, given that different mandates and competing alternatives are available for transport and heating
- Ultimately, this could lead to biomethane prices being significantly different between the two end-use sectors

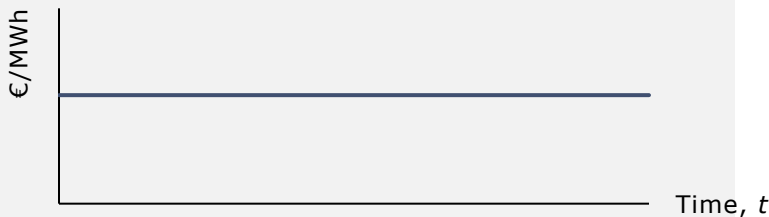
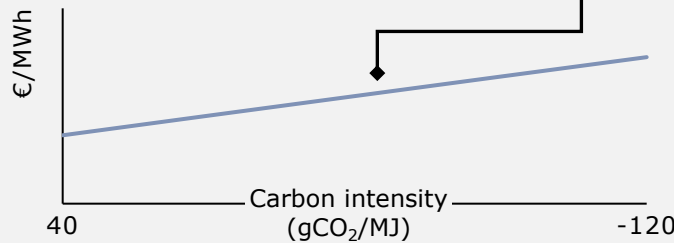


BIOMETHANE FEEDSTOCK

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

The price granted to the supplier will depend on the type of pricing formula, with terms and risks differing between fixed and variable price contracts

OVERVIEW OF BPA PRICING STRUCTURE AND TERMS

	Fixed price	Variable price
Pricing structure	<p>$\text{Price} = \text{Fixed for Molecule} + \text{PoS} + \text{GO}$</p> 	<p>$\text{Price} = \text{Molecule (\% gas hub)} + \text{Premium}$</p> 
Contract tenure	Typically longer	Typically shorter
Market risks	Hedged, with traders/offtakers retaining all market risks and potential price upsides	Exposed, with partial hedging depending on the indexation formulas
Revenue sharing with traders	Already captured in the fixed price structure	Biomethane price could be partly retained by traders

Notes: 1) Depending on the offtake country the premium may be linked to the product carbon intensity or indexed to the evolution of competing biofuels.



BIOMETHANE FEEDSTOCK

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

Feedstock prices are a key driver of project margins, with livestock, agri-industrial and crops costs being driven by external factors such as the PSV

MAJOR COST DRIVERS

COMMENTS

PSV



Energy costs can alter single product prices in the feedstock market. Among them, the Italian index for gas ("PSV - Punto di Scambio Virtuale") has been taken as reference, as it is indirectly impacted by other major reference energy products (TTF for Gas and Brent for Oil)

FERTILISER



Fertilisers cover up to 25-30% of total harvest costs for several crops. Their cost evolution can indeed alter end products costs. Being manufactured within chemical production processes which are gas-intensive (i.e. Haber Bosch for Ammonia used as input for Urea)¹, we can expect their price evolution following the gas markets.

PUN



Electricity prices can impact specific farming practices, impacting heavily their operating costs. As an index for power prices in Italy the "Prezzo Nazionale Unico" has been taken as reference.

INFLATION



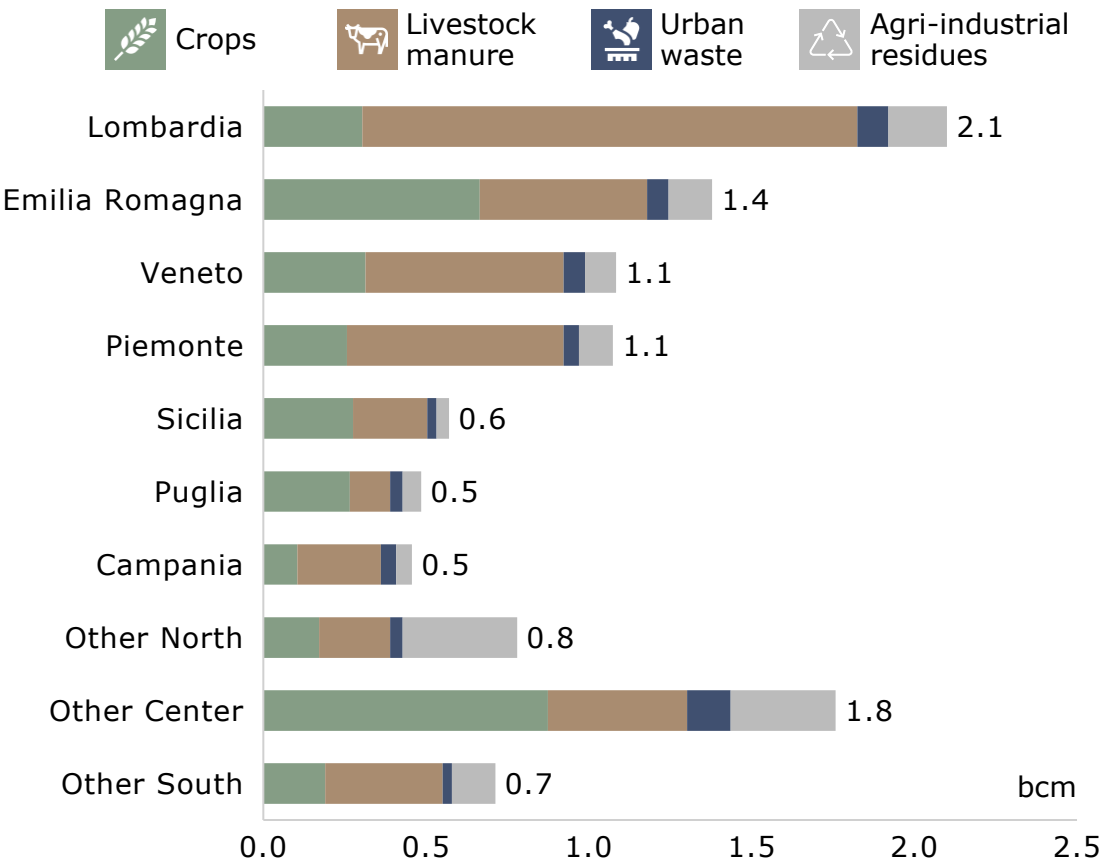
Inflation can be a significant cost driver in markets with historically stable dynamics. Feedstock which have shown stability in their historical values would be indexed to eurozone inflation

Notes: 1) Despite Urea production in Italy is limited, the correlation of PSV prices to global gas market products (i.e. TTF) correlates indirectly PSV to Urea prices in Italy.

2. KEY CONSIDERATIONS FOR BIOMETHANE TRANSACTIONS

Feedstock logistics and economics must be assessed carefully, given their uneven distribution and different market structure across regions

FEEDSTOCK TECHNICAL POTENTIAL BY REGION



COMMENTS

- With 1.52 bcm from livestock manure, Lombardia reflects its dense dairy and meat farming sector. It dominates Northern Italy's biomethane potential from manure, consistent with its strong agricultural industrialisation
- Similarly, both Veneto and Piemonte show solid manure and crop contributions, supporting versatile feedstock strategies for local biomethane scaling through co-digestion. Northern Italy could also unfold a strong biomethane potential from agro residues, e.g., driven by alpine dairy, fruit, and beverage sectors
- Emilia Romagna and other regions in Central Italy could unfold a nearly 1.2 bcm potential of in crops and agro-industrial residues, highlighting their fertile plains and active food processing, especially in cereals
- Sicilia, Puglia, and Campania display more balanced but lower feedstock values. Their warmer climates and fragmented farms limit large-scale livestock and crop residue availability, yet they still contribute via urban waste and niche crops
- Overall, feedstock logistics and economics, including the presence of potential gate fees, shall be properly assessed at local level given their uneven distribution and market structure across regions

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3. AFRY'S APPROACH

AFRY is the ideal partner to Clients investing in the biomethane sector thanks to in-depth knowledge of the market and transaction experience

KEY SUCCESS FACTORS

HOW AFRY WILL GUARANTEE THEM



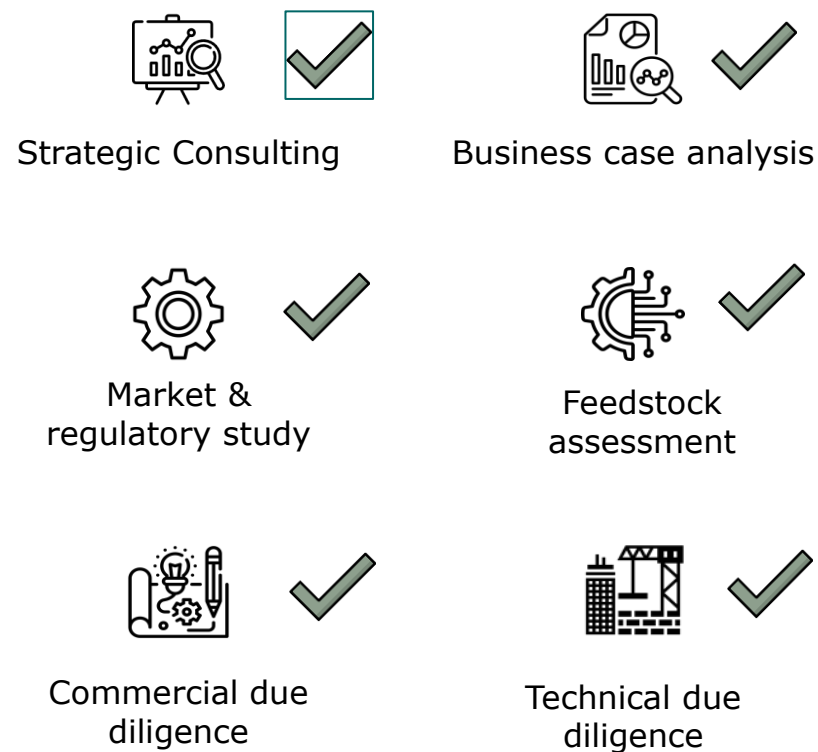
3. AFRY'S APPROACH

AFRY has developed detailed understanding of the market thanks to the experience gained collaborating with a wide-range of clients

AFRY SELECTED CLIENTS



SCOPE IN SELECTED AFRY PROJECTS



3. AFRY'S APPROACH

AFRY offers an integrated and multidisciplinary approach to address the commercial, regulatory and technical challenges faced by investors

OUR APPROACH

Market context

Market growth forecasts
Analysis of the market structure
and competition in the sector

Prices

Commodity and feedstock price
projections
Certificates/Guarantees of Origins
price forecasts
Merchant price forecasts

Regulation

Compliance analysis against
regional norms and regulations
Assessment of the
permitting/authorisation process



Commercial drivers

Revenues and profitability
assessment
Considerations on market position
and competitiveness

Feedstock availability

Assessment of the feedstock supply
Gate fees evaluation

Technical barriers

Analysis of the technical integrity of
an asset
Best practice assessment
Assessment of the connection
request status

3. AFRY'S APPROACH

With its years of experience providing Due Diligence services, AFRY guarantees efficient and smooth support of the transaction process

DUE DILIGENCE WORKSTREAMS

COMMERCIAL

- Assessing the revenues and profitability of business
- Identification of key drivers and risks
- Opine on market position and competitiveness



TECHNICAL

- Form views of integrity of assets and their compliance with industrial norms and best practices
 - Assess future costs and investment needs

EHS / ESG / REGULATORY

- Ensuring the compliance of business and operations with the regional norms and regulations, and the adequacy of systems as per industry norms
- Estimation of future risks or costs arising from EHS / ESG or regulatory changes

WHY WE ARE CHOSEN

People Expertise



A dynamic team with cross-functional expertise, capable of understanding client needs and efficient and guaranteeing smooth support to the entire Due Diligence process.

Proven Approach



Utilizing a tested 3-phase approach to identify and quantify value and potential risks, supported by ongoing market intelligence.

Tangible Results



Proven track records of assisting client on successful acquisition of high value projects

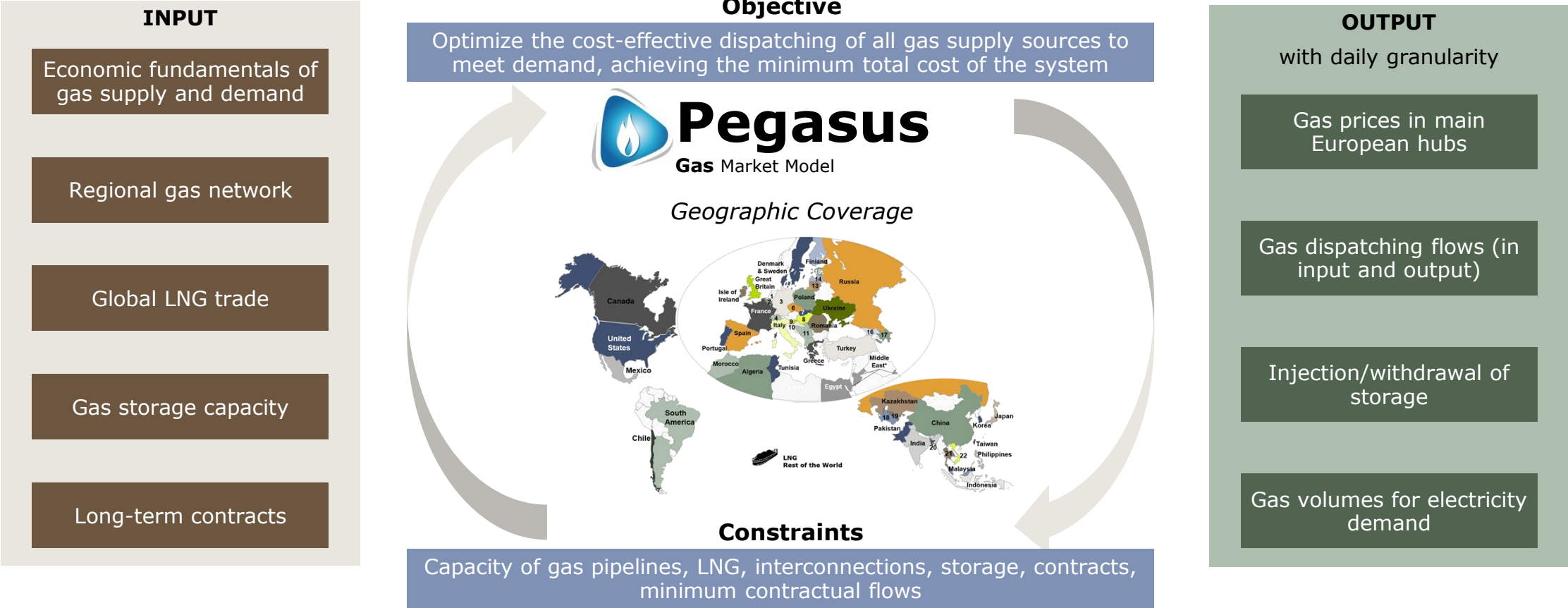
Sector Experience



Experienced in providing transaction advisory in a variety of energy and infrastructure sectors, including biomethane production.

3. AFRY'S APPROACH

AFRY can assist the Client in the commercial assessment of the opportunity, including on the evolution of gas prices estimated through our tool Pegasus



Pegasus provides all the necessary elements to understand the gas market fundamentals in the short-medium to long-term

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AFRY has recently conducted several Due Diligences and market analysis on biogas and biomethane assets, with a focus on Italy (1/5)

Project summary	Client	Country	Year	Area		
				Tech.	Comm./Market	Reg.
Technical and feedstock market due diligence for two biomethane plants in Italy	Investment fund	IT	2025	✓		
Commercial vendor due diligence on a portfolio of biomethane/biogas plants	O&G player	IT	2025		✓	
Technical and Feedstock due diligence of Verdalia's biomethane plants portfolio in Italy and Spain	Verdalia	IT	2025	✓		
Feedstock price projections assuming different climate change scenarios, including analysis of the feedstock availability	International industrial player	IT	2024		✓	
Technical buyer due diligence on portfolio of biomethane plants in the south of Italy, including a detailed analysis on feedstock prices	International industrial player	IT	2024	✓		
Organizational project finance due diligence on the new operational structure of a newly created company, post-acquisition	Industrial player	IT	2024		✓	✓
Market, commercial, technical, regulatory and organizational vendor due diligence on a portfolio of biomethane plants	Italian biomethane producer	IT	2024	✓	✓	✓
Technical and commercial project finance due diligence on a biomethane plant, with a particular focus on the feedstock contracts	Italian biomethane producer	IT	2024	✓	✓	
Market and commercial vendor due-diligence for an Italian bioLNG producer	Italian bioLNG producer	IT	2024		✓	✓

AFRY has recently conducted several Due Diligences and market analysis on biogas and biomethane assets, with a focus on Italy (2/5)

Project summary	Client	Country	Year	Area		
				Tech.	Comm./Market	Reg.
Guarantees of Origin price projections considering both transport and industrial use	Industrial player	IT	2024		✓	
Technical buyer due diligence on a biomethane plant in north Italy, with potential	Green fund	IT	2024	✓		
Analysis of the Italian biogas and biomethane market, including market analysis on different feedstocks	Major investment bank	IT	2023		✓	✓
Market horizon analysis covering multiple EU biomethane market analysis, supply/demand, regulatory, subsidy mechanism and indicative prices ranges	Energy fund	Europe incl. IT	2023		✓	✓
Technical, regulatory buyer due diligence of a biomethane plants developer involved in a project finance scheme	Italian biomethane player	IT	2023	✓		✓
Italian biogas and biomethane market analysis, with focus on feedstocks market	Major investment fund	IT	2023		✓	✓
Technical and regulatory buyer due diligence on a portfolio of biomethane plants, including a particular focus on the profitability	Green fund	IT	2023	✓		✓
Evaluation of the fair market value of a plant using both economic and operational performance parameters	Italian biomethane player	IT	2023		✓	
Buyer due diligence of a portfolio of projects for conversion of biogas plants to biomethane production plants, falling under the "second" incentive system, with particular support in identifying plant solutions	Confidential	IT	2023	✓		✓

AFRY has recently conducted several Due Diligences and market analysis on biogas and biomethane assets, with a focus on Italy (3/5)

Project summary	Client	Country	Year	Area		
				Tech.	Comm./Market	Reg.
Assessment of demand, supply and production costs of biogenic CO2 (by product of biomethane production) and competitive comparison with industrially produced CO2	Leading player in electricity generation	IT	2022		✓	
In the context of a project financing transaction, periodic monitoring services (under construction and operation) of a portfolio of plants	Confidential	IT	2022	✓		
Projection of CIC prices after regulated price period, based on a merit order of biomethane technologies and an expected fuel demand	Leading player in electricity generation	IT	2022	✓	✓	
Regulatory & market study focused on the biomethane value chain in Italy, key actors, actual and under-development plants to evaluate client's positioning	Major energy player	IT	2022		✓	✓
Buyer DD focused on the profitability of converting 5 existing biogas plants in biomethane reviewing regulation, market, technology & vendor business plan	Equity investor	IT	2022	✓	✓	✓
Biomethane regulatory and market study to support the client during a preliminary assessment of an acquisition of 8 biomethane projects	EU biometh. player	IT	2022		✓	✓
Technical buyer due diligence and analysis of the legislative and regulatory framework, with a focus on the Biomethane for Transport Incentive Decree, and analysis of the target market for the gas produced (grid or LNG)	Green Arrow Capital Sgr	IT	2022	✓		✓
Techno-economic evaluation of biogas/biometh. value chain including feedstocks, AD and upgrading technologies, EU production potential, LCOB, and EU countries scoring for developing new projects or acquiring existing plants	O&G	EU	2022	✓	✓	✓

AFRY has recently conducted several Due Diligences and market analysis on biogas and biomethane assets, with a focus on Italy (4/5)

Project summary	Client	Country	Year	Area		
				Tech.	Comm./Market	Reg.
Analysis of the legislative and regulatory framework, with a focus on the Biomethane for Transport Incentive Decree, and analysis of the target market for the gas produced (grid or LNG)	Confidential	IT	2021		✓	✓
Technical buyer due diligence and analysis of the legislative and regulatory framework, with a focus on the Biomethane for Transport Incentive Decree, and analysis of the target market for the gas produced (grid or LNG)	Confidential	IT	2021	✓		✓
Redesign of decarbonisation strategy of a TSO to achieve zero emissions by 2050, with focus on biomethane and hydrogen	GSI (gas TSO)	IT	2021		✓	
Technical, Market, Regulatory and ESG DD for a project finance of biomethane plants portfolio including production, liquefaction, and distribution assets	Major lending bank	IT	2021	✓	✓	✓
Technical buyer DD on 1 biomethane plant (transaction) including environmental analysis, and the review of the business plan and EPC, O&M and insurance contracts	Equity investor	IT	2021	✓	✓	
Market & Tech. DD on 2 biometh. plants with focus on transport sector incentives	Developer	IT	2021	✓	✓	
Market due diligence for the procurement strategy of crops for energy production and agricultural residues	Mossi&Ghisolfi	IT	2021		✓	
Technical and market advisory on numerous development projects, as part of initiatives in the CNG and LNG sector in Italy	Confidential	IT	2021	✓		

AFRY has recently conducted several Due Diligences and market analysis on biogas and biomethane assets, with a focus on Italy (5/5)

Project summary	Client	Country	Year	Area		
				Tech.	Comm./Market	Reg.
Market DD on a biomethane plant including analysis of the market for the delivery of organic fraction of municipal waste	Developer	IT	2020		✓	
Market & Tech. DD on 6 biomethane plants	Developer	IT	2020	✓	✓	✓
Power plant's concept design, pre-feasibility study, business planning and identification of suitable sites. Rated thermal input 76–121MW. Fuel: RFD.	BGrimm	IT	2020	✓	✓	✓

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Contact details



Gaia Stigliani

Senior Principal

+39 3450844488

gaia.stigliani@afry.com

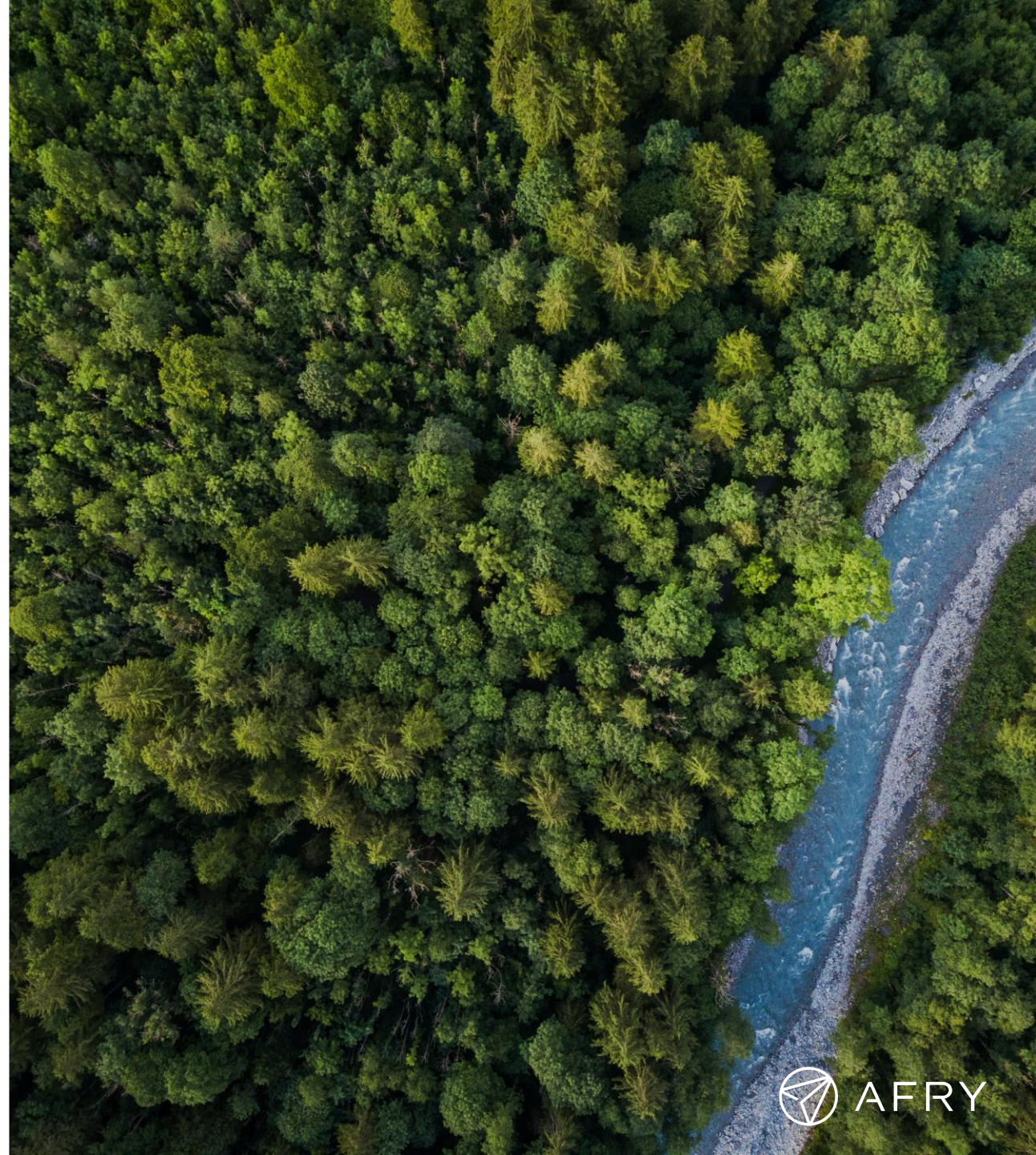


Cristina Morichi

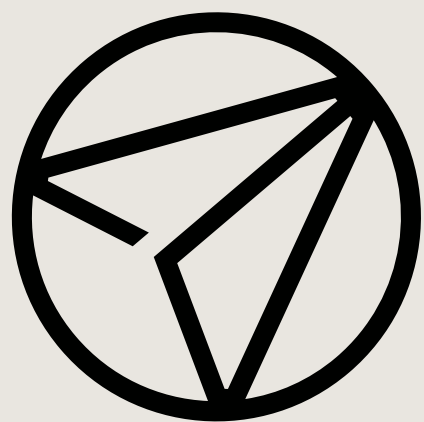
Principal

+39 3497892245

cristina.morichi@afry.com



Making Future



AFRY