BEYOND THE PLANT:

Aligning biogas projects with community needs

November 2025

EBA
European Biogas Association

Europe is working towards a more sustainable economy, while seeking to remain competitive and become more resilient. Within this context, biogases (biogas and biomethane) are becoming increasingly important, but for any project to succeed, it requires local support. This short manual by the European Biogas Association (EBA) offers practical guidance for both project developers and nearby residents on how to build trust, address concerns and ensure biogas and biomethane plants are well integrated into local communities. Based on expertise from multiple stakeholders involved in the biogases value chain, it demystifies biogases and shows how strong community engagement can lead to lasting partnerships and shared benefits.

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Why is community engagement important for the development of a biogas plant and what does it mean?

As Europe moves toward a greener, more resilient economy, biogases (biogas and biomethane) have emerged as a promising **solution to several societal challenges**, including managing organic waste, increasing renewable energy production, supporting sustainable agriculture and boosting rural development. However, the success of any biogas or biomethane project depends on more than just engineering. It **requires a supportive ecosystem**, one that includes not only technical expertise and financial resources, but also the support of the community where the project will take root.

Social acceptability refers to the level of support a project receives from local communities, stakeholders and the wider public. Securing this support is particularly important in the case of biogas and biomethane plants, often located near farms, waste processing facilities or residential areas, if we are to make full use of local organic resources.

Although many people **support the transition to clean energy**, they might **resist the local projects** needed to make it happen. This is known as **NIMBY** effect ("Not in my backyard"). Added to this is the phenomenon known as **NIMTO** ("Not In My Term Of Office"), referring to policymakers that tend to avoid choices they feel unpopular during their mandate, postponing necessary but potentially complex measures.

Developers must be increasingly capable of communicating their projects effectively to outline the positive externalities for the communities, **while respecting local values, considering community well-being**. To achieve this, it's important to address fears, concerns and misinformation early in the process when developing a new plant or operating an existing one.

Developers should act as active counterparts, building trust and supporting transparent spaces for information and dialogue to counter myths and misinformation. This kind of approach establishes a long-term relationship with the local communities transversely and it helps building mutual trust where plants can be tools for shared sustainable development rather than objects of conflict.

Nearby residents are often highly attentive to changes in their surroundings and to any new activities that could impact their quality of life and well-being. In recent years, growing awareness of sustainability and environmental issues has led citizens to seek a more active role in decision-making processes related to local development projects.

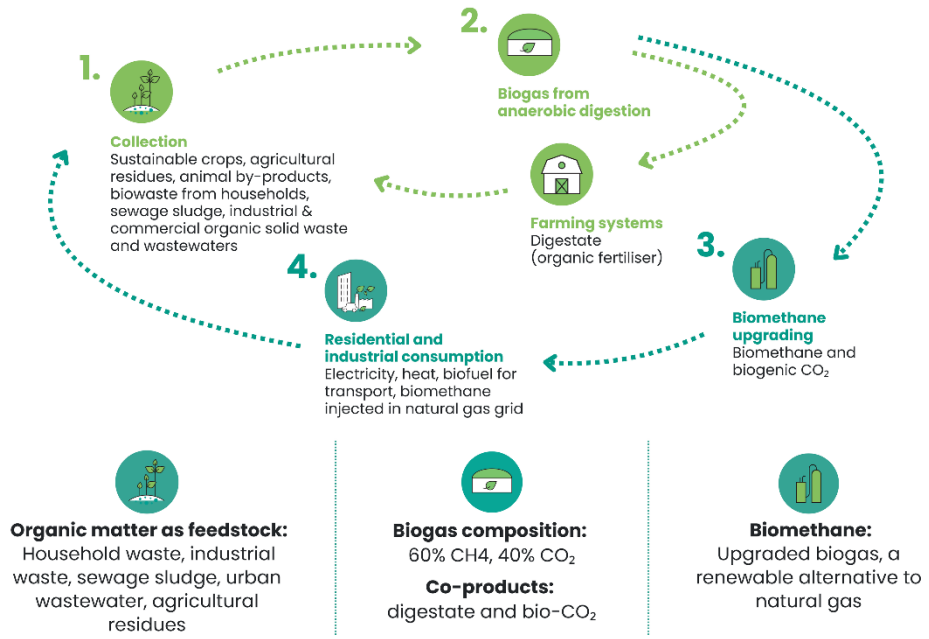
The desire for participation is sometimes overlooked by public authorities and project developers. This can result in a sense of exclusion in the planning process. In many cases, concerned citizens independently seek out information through sources that are not always reliable or accurate, which can lead to the spread of misinformation.

As representatives of local communities, **local policymakers** play a key role in successful project rollout. As a **bridge between communities and developers**, they can foster transparent communication about the project, support efficient planning and help address concerns or misinformation early on. By encouraging local engagement, they ensure that the projects deliver real benefits while aligning with community needs.

02

What does a biogas plant do and why does it matter?

How do we produce and use biogases?



When discussing the social acceptance of biogases, it is essential to first understand what biogases are and how they work. Unclear information can lead to misconceptions, which in turn may discourage public support and slow down the adoption of this promising renewable energy source.

A **biogas plant** converts **organic waste** into renewable energy. Organic materials such as sewage sludge, food waste from industries and municipalities or farm residues are collected and fed into a process called anaerobic digestion. This is a natural biological process in which micro-organisms break down organic matter in the absence of oxygen, inside a sealed tank called a digester, which **functions like a stomach**. This controlled process prevents harmful emissions that would otherwise occur from open-air decomposition.

The result is **biogas**, a renewable energy source that can be used to produce heat or electricity for homes and industries. When upgraded by removing carbon dioxide and impurities, biogas becomes **biomethane**, which can be injected into the existing gas grid, effectively replacing all end-uses of fossil natural gas. This is key to accelerating the reduction of greenhouse gas (GHG) emissions across various sectors, including buildings, transport, industry and agriculture.

Biogases (biogas and biomethane) are less well-known than other green alternatives, but have enormous potential and could play a key role in the future energy system. Unlike intermittent sources like wind and solar, **biogases can be produced continuously**, providing a stable and flexible energy supply. In addition to renewable electricity, we also need renewable gaseous molecules to achieve a balanced and resilient energy mix.

In addition, **Europe's existing gas infrastructure is biomethane-ready,** because biomethane molecules are chemically indistinguishable from fossil natural gas. This should allow for a faster and more cost-effective shift away from fossil fuels, since there is little need to build expensive and time-consuming new grid infrastructure.

This is particularly important because energy infrastructure is the backbone of our energy system. Just like your backbone supports your body and helps you move, energy infrastructure supports our work and daily life at home.

But the benefits of biogases go beyond the production of renewable energy. In **agriculture**, biogas production plays a vital role in enabling **sustainable and efficient practices**, supporting rural development and enhancing the economic resilience of farming communities by:

1. Turning agricultural residues into renewable energy;
2. Reducing methane emissions from open-air decomposition of biomass;
3. Making use of **digestate**, a nutrient-rich by-product of the biogas production process, as an organic fertiliser. This enhances soil health, supports biodiversity, reduces reliance on synthetic fertilisers and lowers pesticide use;
4. Developing agro-agricultural practices by changing crop rotation and extending soil cover.

Additional **synergies with local industries** can be created by valorising **bio-CO_2**, making their processes more sustainable and circular. Bio-CO_2 can replace fossil-based CO_2, commonly used in greenhouses, food packaging, the production of fizzy drinks, medical applications, construction materials, chemicals and even aviation fuels. By closing resource loops and reducing dependence on fossil sources, biogases contribute to a **more sustainable and waste-free economy**.

03

Biogases in Europe: a maturing technology with growing significance

Biogases are a valuable and strategic part of the clean energy transition. Understanding their role in enhancing sustainability, energy security and economic resilience is essential to building greater public trust and support.

Biogas and biomethane technologies are maturing, and Europe is a global leader in their development and manufacturing. Biogas use in Europe began in the 19th century. However, large-scale, policy-driven development started in the 1970s, following the 1973 oil crisis, which sparked interest in energy independence and alternative fuels. Production grew slowly through the 1990s but has accelerated in recent years, driven by growing awareness of its multiple benefits. This growth is further supported by strong national and EU policies focused on four key areas:

1. **Tackling climate change** by reducing GHG emissions in all sectors of our economy;
2. Becoming more resource-efficient by boosting the **circular economy**, for example through reducing waste or re-using materials as much as possible across all value chains;
3. Reducing excessive **dependence on unstable third countries** by producing sustainable alternatives within Europe. Using **clean technology manufacturing** as a key driver to restore Europe's **competitiveness** at global level.

Furthermore, biogases are already **the most competitive renewable gas available in Europe today**. Thanks to the maturing technologies, existing infrastructure and a growing supply of sustainable feedstocks, biogas and biomethane can be produced and delivered at lower costs compared to other renewable gases like hydrogen. This makes them a practical and cost-effective solution for defossilising sectors that are difficult to electrify.

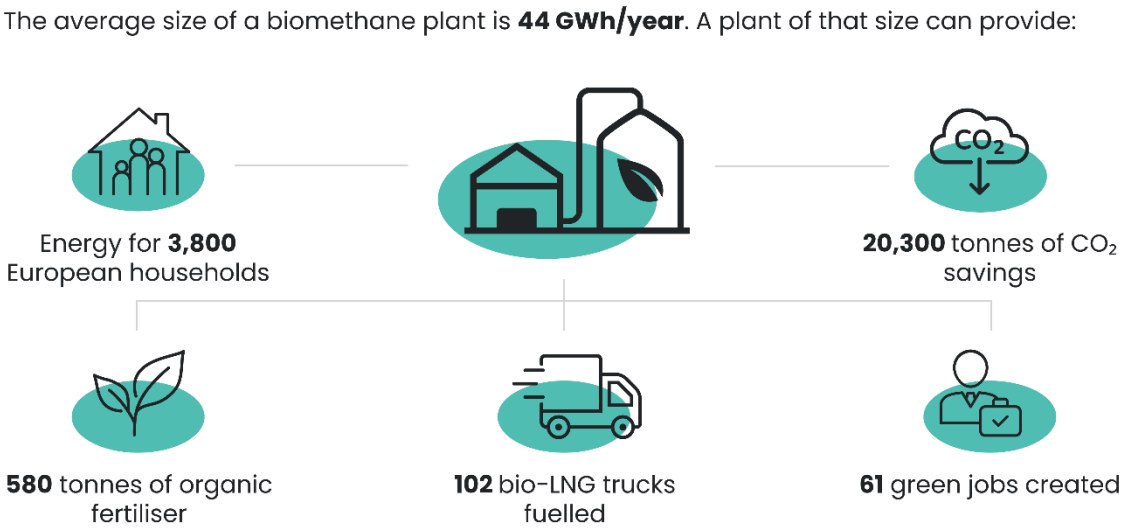
Biogases are also powerful enablers of the **circular economy**. By turning organic waste into renewable energy and valorising digestate and bio-CO_2, they close resource loops and reduce dependence on fossil sources. This not only cuts emissions and waste but also creates local economic opportunities, making the energy transition more sustainable and inclusive.

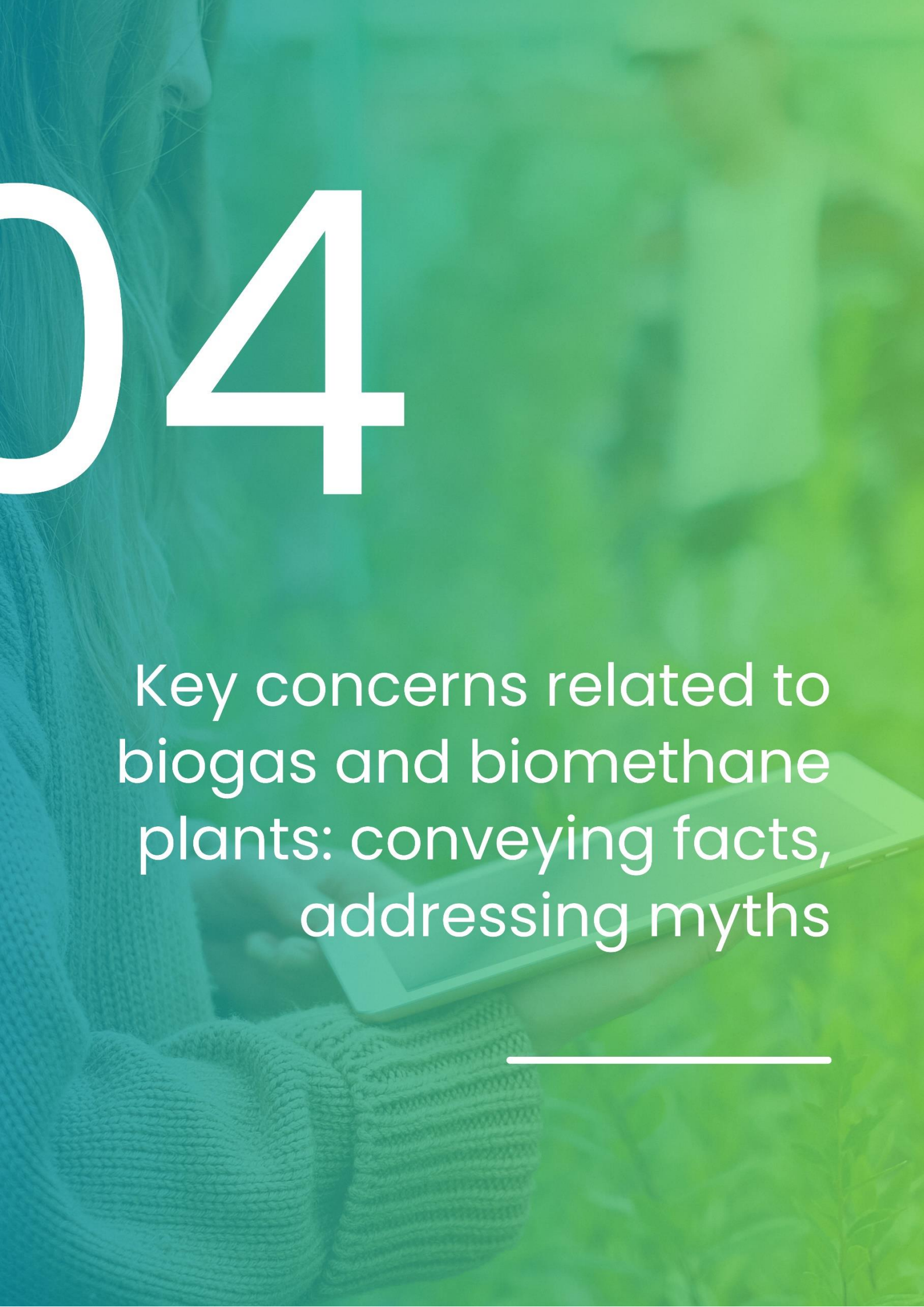
Today, **Europe is the world's largest producer of biogases**. In 2023, 22 bcm (234 TWh) of biogases were produced in the 21,142 plants located in Europe, according to the latest data from the European Biogas Association. This is more than the entire inland natural gas demand of Belgium, Denmark and Ireland combined, and represented 7% of EU natural gas consumption in 2023.

4.9 bcm (52 TWh) of total 2023 production was **biomethane**, which **is the fastest growing segment of the sector.** At least 85% of existing biomethane plants are connected to the gas grid, and the average biomethane plant size is 44 GWh/year.

By 2040, multiple reports say that Europe could produce over **100 bcm of biogases, enough to meet 80% of the projected reduced European Union demand for gaseous fuels** at that time. The sector is undergoing rapid development. For more updated information on the development of biogases in Europe, visit: www.europeanbiogas.eu

Against this backdrop, the European Commission and most energy experts confirm that renewable gases will continue to play an important role in the EU's energy system through 2040 and 2050. Nevertheless, a **clear pathway to expand the use of biogases** and support Europe's homegrown renewable gas industry will be key to providing stability for the sector and ensuring that biogases can deliver sustainability, circularity, resilience and competitiveness to their full potential.





04

Key concerns related to biogas and biomethane plants: conveying facts, addressing myths

Misconceptions around biogas and biomethane plants can significantly hinder their social acceptance, especially when concerns are not addressed with clear, transparent and evidence-based information. It is important to acknowledge that any biogas and biomethane plant involves elements that require diligent control and oversight. However, modern facilities are designed with strict safety protocols and advanced technologies to effectively minimise and manage these risks.

By providing transparent, accurate information about how these plants operate and the measures in place to prevent or mitigate any potential impacts, we can build trust and foster a positive relationship with the community. Embracing best practices and ongoing communication is key to ensuring that biogas and biomethane plants contribute to sustainability while respecting the wellbeing of nearby residents.

In the context of biogas and biomethane plants, **social acceptability challenges** include attitudes towards issues such as odour management, land use, traffic, environmental impacts and an equitable sharing of the benefits. Resistance is sometimes fuelled by a **lack of accurate information** about how modern plants operate and the benefits they can provide, or by **mistrust in the plant's proper management and operation**. The most common concerns related to biogas and biomethane plants include:

Use of unsustainable or non-local feedstocks

It is important to note that, in general, feedstocks used to produce biogases in Europe are strictly regulated and must comply with EU sustainability standards. Despite this, social acceptance of biogas and biomethane projects may be affected when feedstocks are seen as unsustainable or transported over long distances. These concerns often relate to environmental impact, road traffic and land use. To address them, developers should prioritise local, sustainable waste sources like agricultural residues, sequential or intermediate crops, crops from marginal or contaminated lands, manure, food waste, sewage sludge or industrial waste and clearly communicate their origin. Third-party sustainability certification can further improve trust and social acceptance.

Odour concerns

One of the most common concerns among citizens is the potential smell from nearby biogas or biomethane facilities. This concern is understandable, as biogas plants process waste, which is naturally odorous.

However, the anaerobic digestion process, where organic material is broken down in a sealed, oxygen-free environment, greatly reduces odours compared to open-air

decomposition and is practically odourless in modern plants. Additionally, digestate is less odorous than other products used as fertilisers, such as manure.
That said, smells can still occur during the transport, storage and handling of feedstock or the spreading of the digestate. That is why project developers must take proactive measures to manage and minimise odour at every stage of the process.

1. Locate the plant close to feedstock sources to reduce transport time and handling.
2. Ensure sufficient distance from residential areas, in compliance with regional or national regulations.
3. Use sealed, gas-tight equipment for the transport, storage and handling of organic materials.
4. Enclose key areas (e.g. unloading zones, storage tanks, digesters) to prevent contact between waste and the open air.
5. Ensure adequate maintenance of storage areas.
6. Use biofilters, activated carbon filters or chemical scrubbers to treat air from enclosed areas.
7. Include odour prevention and response strategies in the plant's operational planning.
8. Measure baseline air quality before construction and continue monitoring during operation to detect and fix issues early.

Increased road traffic

Increased road traffic is one of the most common concerns raised by residents near biogas and biomethane projects. If we take an average biomethane plant (44 GWh/y), traffic typically amounts to 10 truck movements per working day. That is roughly the same number of trucks you might see making deliveries to a medium-sized supermarket or a small construction site. It is less than one truck per hour, even during the busiest hours of the day.

Even so, developers must plan carefully to minimise traffic impact and reassure the community. This should be addressed early in the project design phase by:

1. Scheduling truck movements to minimise disturbance to local communities;
2. Ensuring all vehicles comply with safety and environmental standards;
3. Reducing transport distances for incoming feedstock.

Noise nuisance

Noise is another common concern for communities hosting a biogas and biomethane plant, and can significantly affect public acceptance. These concerns are usually linked to truck traffic and the operation of cogeneration engines used to transform biogas into heat

and electricity. To address this, developers should plan proactively and consider measures such as:

1. Using trucks that meet noise emission standards and/or are equipped with sound-insulated engines;
2. Installing cogeneration units in soundproof enclosures;
3. Conducting an acoustic study to identify potential noise sources and ensure compliance with local noise regulations.

Impact on local landscape

Local communities often express concerns about the visual impact of biogas and biomethane plants, particularly the industrial appearance they can bring to rural or natural landscapes. To improve social acceptance, developers should prioritise the visual integration of the facility into its surroundings. Beyond hiring an architect and complying with local regulations, developers can take several additional steps:

1. Select the site carefully, taking the natural contours of the landscape into account, as well as protection of existing ecosystems and biodiversity;
2. If possible, partially bury storage tanks or digesters to reduce their visual footprint and plant tree hedges or other vegetation to screen the facility and blend it into the environment;
3. Plan for future expansion to ensure it also blends with the surrounding landscape.

Leakages due to inefficient plant operation

By design, the biogases industry is a net contributor to GHG emissions mitigation, and biogases have a pivotal role to play in reducing methane emissions in the agriculture, energy and waste sectors.

However, greenhouse gas (GHG) leakages from biogas and biomethane plants are a valid environmental concern and may occur when facilities are poorly designed or operated inefficiently. Recent independent measurements on methane leakage conducted across a range of biogas plants suggest that average loss rates are often to 1.2 - 1.6%, with considerable variation depending on factors such as the age, maintenance, technology and operational practices of the biogas plant.

Methane, the main component of biogas, is a potent greenhouse gas, and even small leaks during feedstock and digestate storage, biogas upgrading, or distribution can reduce the climate benefits of biogases. To avoid this, developers must:

1. Ensure that plants are built with high-quality, sealed infrastructure and regularly maintained to detect and repair leaks;

2. Implement robust monitoring systems;
3. Adhere to best practices to minimise emissions and maximise the climate benefits of biogas production.

Water pollution

When digestate is applied to soil, bacteria convert its nitrogen from ammonium (which binds to the soil) into nitrate (which moves easily with water). While plants need nitrate, any excess can leach into groundwater or rivers, causing pollution through nitrate leaching. Nitrate leaching may occur with both digestate and synthetic fertilisers. When used correctly, at the right dose and at the appropriate time, the risk of water pollution associated with digestate can be avoided. Today, widely available distribution systems enable the maximization of nitrogen efficiency while minimising losses.

Planting catch crops during winter can help absorb leftover nutrients. Adequate storage at the biogas or biomethane plant also ensures digestate can be spread only when conditions are appropriate.

Safety hazards

Safety and health are paramount. In addition to complying with the national regulations in force, plant developers must prioritise thorough design, regular maintenance and strict safety protocols. This includes:

1. Installing reliable gas detection and ventilation systems;
2. Conducting frequent inspections of valves, pipelines and storage tanks;
3. Ensuring all equipment meets safety standards;
4. Providing comprehensive training for staff on safe operating procedures and emergency response;
5. Ensuring proper handling and storage of inputs and outputs.

By proactively managing these measures, developers can minimise hazards and safeguard the local community, the environment and the installation itself.

05

Community engagement begins on day one

Securing social acceptance for biogas and biomethane projects requires more than technical planning; it also depends on early and meaningful engagement with local communities. Involving residents from the outset helps build trust, clarify misconceptions and create a sense of ownership, reducing the risk of opposition later in the process.
Early and meaningful communication increases the likelihood of public acceptance. Delayed engagement, on the other hand, may allow alternative sources to disseminate inaccurate or incomplete information.

For example, if a facility is established in a rural area without proper communication, residents may lack understanding of its benefits, have concerns about its environmental impacts, whether real or perceived, or feel excluded from the decision-making process. Such circumstances can lead to opposition, reduced cooperation or even active resistance, ultimately jeopardising the project's success.

Social acceptability can be viewed as a **process of negotiation and compromise**. It involves not only the developer but also the local population, relevant authorities and other key stakeholders.

For any new project that has en impact on a territory, including biogas and biomethane projects, to gain acceptance from the local population and stakeholders with **early and consistent communication** is essential. Starting from the initial study and planning stages, project developers should engage with the community to:

- **Understand the community's perceived concerns or disadvantages** related to the project;
- **Communicate the value and the tangible benefits** the biogas project will bring to them;
- **Adapt the project** progressively in response to feedback, suggestions or objections **where appropriate**.

Best practices to communicate with communities

To build trust and foster transparency, developers may apply the following principles when informing and engaging with the community with consistent, clear and constructive messages:

1. **Understand the local context**: Knowledge of territorial dynamics, land-use issues and the concerns of local actors allows developers to identify key stakeholders, tailor messaging and choose appropriate communication channels;
2. **Clearly communicate the project, its objectives and the technology**: Biogas and biomethane plants should be explained in accessible terms. Supplementing explanations with visuals, understandable statistics and examples can help demystify the technology and make the project more tangible;
3. **Collaborate with local partners**: Local organisations and individuals are familiar with community dynamics and local issues, and can support both project planning and public engagement strategies;

4. **Foster an open and sincere dialogue**: While not all concerns can be addressed, developers should show a willingness to listen and respond constructively. Transparency, empathy and realistic solutions are key to building lasting support;
5. **Constant monitoring** of digital communication platforms and local media outlets to identify and address potential concerns, criticism or misinformation.

The project developer can use a variety of means of communication to engage with the communities living close to biogas and biomethane plants in addition to the steps required by the relevant national/regional legislation. The choice of the right means will depend on the needs of each community. The most commonly used means of communication include:

- **Public consultation**
- **Information sessions within the community**
- **Door-to-door visits in nearby communities**
- **Visits to plants already in operation**
- **Plant open days for the public**
- **Brochures and digital communication with social-friendly content**
- **Press relations with local media outlets**
- **Involvement of local ambassadors**

06

Community engagement success stories across Europe

Success stories across Europe show that biogas and biomethane projects can gain strong local support when communities are engaged early, transparently and respectfully. These examples demonstrate that social acceptance is achievable when concerns are addressed proactively and tangible local benefits are delivered. This chapter includes selected case studies that illustrate how well-planned engagement strategies and community involvement have led to successful outcomes for both project developers and residents.

LOCATION	COUNTRY HIGHLIGHTS	INPUTS	OUTPUTS	CO_2 EMISSIONS SAVINGS
Pays de Laon, Hauts-de-France, France	France is the **fastest-growing biomethane market** in Europe, with 652 biomethane plants injecting into the grid by the end of 2023. In addition, over 1,232 projects are in development and set to become operational before 2027	21,900 t/year: 35% sugar beet pulp 24% biowaste from food/feed industries 40% intercrops	250 Nm³/h (25,000 MWh/year) biomethane 18,000 m³ digestate Renewable energy for domestic, industrial and transport use	Significant reduction by replacing fossil fuels and avoiding waste transport With 250 Nm3/h of bioCH4, 10,584 tonnes of CO_2 could be avoided every year.
Fehrenbötel, Germany	Germany remains **Europe's largest producer of biogas** and biomethane, with 87 TWh of biogas and 13 TWh of biomethane produced in 2023, accounting for 48% of Europe's total biogas production.	**36,000 tonnes** of sustainable renewable raw materials from local farms	Renewable heat and electricity for the plant and 650 homes Digestate used as organic fertiliser	**10,500 tonnes of CO_2** emissions saved annually
Piedmont, Italy	Italy is among the fastest-growing biomethane producers and one of Europe's top biogas markets, with **over 1,800 biogas plants** and 25 TWh of biogas produced in 2023, making it second only to Germany in plant numbers.	Livestock manure (3,000 cattle) Raw materials 35,500 tonnes By-products 10,000 tonnes Agrifood industries 6,000 tonnes **9,000,000 kwhth/y to IRCC** (Cancer Research and Treatment Institute)	250 kg/h bio-LNG for transport 250 smc/h biomethane in the national grid **800 kg/h food-grade liquid CO_2**	Bio-LNG (medium) -10 gCO2eq/Mj, Thanks to bio-LNG, trucks no longer have CO_2 equivalent emissions and local pollutants are also drastically reduced (**-70% NOx and -99% fine dust**) compared to diesel-powered vehicles.

Case study from France, Biométhane de l'Aisne

1. About the plant

This agricultural biomethane plant has been operating since September 2020. It produces 250 Nm³/h of biomethane, equivalent to 25,000 MWh HHV per year, and is connected to both the distribution and transport networks through reverse-flow technology, enabling export or storage when local demand is low.

The plant works with two farming partners and processes 21,900 tonnes of feedstock annually (about 60 t/day): 40% inter-crops, 36% sugar beet pulp, 24% food and feed industry waste).

It generates 18,000 m³ of digestate, which is spread over 2,000 hectares using 11 km of underground pipes, reducing truck traffic and nuisance for residents. The facility supplies biomethane to 21 municipalities within the Pays de Laon community (population ~44,000).

Local agri-food industries (fruit, vegetable dehydration, sugar refineries, flax processing) are key partners: they provide by-products for biomethane production and consume the

gas, especially in summer when domestic demand is lower. The plant also supports mobility solutions: trucks and public buses run on natural gas, with a fuelling station nearby and the motorway facilitating transport.

Reverse-flow technology is a major advantage, allowing the plant to export biomethane to regions with shortages or store it in strategic reserves.

2. Interaction with the community

From the outset of the project in 2017, the company prioritised strong engagement with the local community. This commitment led to multiple meetings and presentations with municipal councils, the Aisne department and the Hauts-de-France region. Partnerships were established with the Aisne Chamber of Agriculture and the Association of French Biogas Farmers (AAMF), whose feedback played a key role in shaping the project.

> "Since 2017, we have involved the local community at every stage of the project. We organised meetings with municipal councils, regional authorities and agricultural organisations, and communicated through newspaper articles, presentations and open days during planning, construction and commissioning. Transparency was key, and we shared details on feedstock, digestate, partners, investments and subsidies."

The choice of location was key to public acceptance. The plant is situated one kilometre from neighbouring municipalities, avoiding visual impact and prevailing winds towards residential areas. By processing local waste that previously would have left the region, the facility produces renewable energy for domestic, industrial and transport use.

The company continues to foster dialogue through participation in AAMF open days and educational projects with schools, helping students explore science topics related to renewable energy. These efforts reflect a clear objective: to deliver local, sustainable energy while building trust and long-term relationships with the community.

Case study from Germany, Fehrenbötel

1. About the plant

The Fehrenbötel biogas plant in Northern Germany started operating in 2006 and was expanded in 2010 with an additional combined heat and power (CHP) unit. Today, it runs three CHP units with a total output of 1,885 kW. Every year, the plant produces approximately 15.5 GWh of electricity and 17.2 GWh of heat, with CO_2 savings of around 10,500 tonnes. After

covering its own needs, all remaining heat is supplied to a nearby district heating network, providing warmth for over 650 single-family homes.

The plant is operated jointly by a local company and more than 20 regional farmers, who deliver maize, GPS rye, grass and sugar beet. Each year, around 36,000 tonnes of renewable materials are used, mostly from nutrient-poor farmland. This helps farmers make better use of their land while supporting sustainable, local energy production.

2. Interaction with the community

The Fehrenbötel biogas plant maintains a strong and open relationship with its surrounding communities. The operators are in regular contact with local mayors, councils and building authorities, ensuring transparency and trust. They also involve residents in projects through newsletters, local media, social media updates and information events, and also host open days at the plant so people can see how it works.

> "Regular dialogue, public events and close cooperation with local authorities and residents are key to building trust and making the community an active partner in the plant's success. "

This open communication has fuelled positive public opinion about biogas. When residents understand how the plant benefits the area, through local energy supply, reduced emissions and economic value, they tend to support it. The municipality also gains from trade tax income, municipal levies, new jobs, low-cost heating and eco-friendly fertiliser made from the plant's by-products.

Overall, the Fehrenbötel biogas plant is a strong example of how renewable energy projects can bring both environmental and community benefits when built on trust and cooperation.

Case study from Italy, Vanzetti Holstein

1. About the plant

The biogas plant operates with a diverse mix of feedstocks, ensuring efficiency and sustainability. It processes livestock manure from approximately 3,000 cattle, along with 35,500 tonnes of raw materials such as corn, sorghum and triticale. Additionally, it utilises 10,000 tonnes of agricultural by-products like corn cobs and cereal residues, and 6,000 tonnes of agri-food industry leftovers, including whey, olive pomace, and non-compliant fruits and vegetables. This integrated approach supports waste reduction and resource

recovery. The plant produces 250 kg/h of bio-LNG for transport, supplied to Gruppo Maganetti, and injects 250 smc/h of biomethane into the national grid. It also generates food-grade liquid CO_2, up to 800 kg/h, for industrial use. Initially focused on electricity generation, the facility underwent a major revamp in 2024 to prioritise biomethane production, delivering 9,000,000 kWhth annually to the Cancer Research and Treatment Institute. This development reflects its commitment to innovation and renewable energy.

2. Interaction with the community

From the outset, the company prioritised transparency and dialogue with local stakeholders. The first step was presenting the project to public authorities, followed by open community meetings to explain biogas technology and its environmental benefits. These efforts extended to all three plants operated by the company. Beyond communication, the plant actively contributes to local well-being: 5% of district heating revenues are donated annually to village associations and charitable organisations such as cancer support charity Casa d'Accoglienza della Madonnina. Educational engagement is another cornerstone, with regular visits hosted for schools, universities and policymakers to foster awareness of renewable energy. The digestate produced by the plant is shared with local farmers and even retirees for use in gardens, reinforcing a circular economy model.

> "Our goal has always been to create value beyond energy: supporting local charities, sharing resources like digestate for gardens and farms, and hosting schools and policymakers to teach them about sustainability."

Over time, these initiatives have transformed initial scepticism into strong community support, positioning the plant as a driver of economic, environmental and social sustainability within the region.

Conclusions

Biogas and biomethane projects have significant potential to support Europe's transition to a greener, more resilient economy. As described in this leaflet, their success relies not only on technological viability and regulatory compliance, but also on the support of the communities in which they are developed.

Community engagement is not a peripheral concern, it is a central component of any project. Examples from across Europe show that early, transparent and ongoing dialogue with local stakeholders builds trust, counters misinformation and helps tailor projects to local needs and expectations. This approach ensures projects thrive and benefit all stakeholders.

Addressing public concerns, such as feedstock sustainability, odour, traffic, safety and landscape impact, requires **clear, fact-based communication and a willingness from all parties involved to listen.** These concerns are not insurmountable barriers, but rather opportunities to improve project design and strengthen local partnerships.

To align the development of biogases with community values, developers and residents of nearby communities can:

- **Invest in long-term, two-way communication:** Both developers and community members should engage in ongoing, transparent dialogue starting early in the project planning process;
- **Acknowledge and address concerns openly and timely:** Local residents are encouraged to voice concerns clearly, while developers should respond with transparency and clear technical information;
- **Highlight and share benefits:** Together, developers and communities should focus on the shared advantages, including local economic growth, renewable energy access and environmental improvements;
- **Collaborate to build trust and ownership:** Active cooperation between developers, local institutions and residents helps foster a sense of ownership and mutual trust, essential for the project's success.

Ultimately, **biogas and biomethane projects that are socially supported are more likely to be widely acknowledged and replicated.** As Europe scales up the production and use of biogases, placing citizens at the heart of these projects is not only best practice, it is a prerequisite for lasting success.

About the European Biogas Association (EBA)

EBA fully believes in the future potential of renewable gas in Europe. Founded in 2009, the association is committed to the deployment of sustainable biogas and biomethane production and use throughout the continent. EBA counts today on a well-established network of over 350 national associations and other organisations covering the whole biogas and biomethane value chain across Europe and beyond.

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