

<u></u>ingenia

Due Diligence.

Validate and accelerate your business case with Ingenia.

A growing number of technologies offer new opportunities for energy, recycling or biobased solutions. Obtaining finance for new projects or new ventures depends on the comfort level of investors or banks. **A technical opinion, third party witnessing** or **due diligence** can help to move ahead. Identification, control and mitigation of potential risks and validation of the business model does increase comfort and accelerates the decision making process.

Ingenia offers full technical support to developers and investors. Our clients include:

- Private equity investors
- · Venture capital funds
- Institutional investors
- · Public investment funds
- Lease providers
- Banks

Ingenia provides independent services varying from technical opinions, to third party witnessing and (full) due diligences on new technologies or projects.

Technical opinion

A **technical opinion** aims to evaluate the technical feasibility and identify the most crucial technical risks. A technical opinion can be conducted separately from, but typically prior to, a (full) due diligence. An analysis of the technology or the process is prepared by reviewing the technical details of a project such as process flow sheets and technical descriptions. Input





and output specifications are evaluated, for example by laboratory analysis, (pilot) plant operational results or industry standards. Mass and energy balances are checked, yields and conversion rates will be appraised. In combination with feedstock and energy costs the mass and energy balance is generally the main cash flow driver for the business case. Novel technologies are typically benchmarked with conventional or peer technologies.

A technical opinion is more compact and an efficient starting point to address the technical feasibility before entering into a (full) due diligence.

Cross checking the HAZOP (HAZard and OPerability) that is associated with a new technology or project can be included in the technical opinion as this may influence sensitivity analysis.

Due diligence

A desk top **due diligence**, does include a technical opinion and challenges the technology, project or new venture on a much broader basis. For example benchmarking of CAPEX costs and contingencies and the evaluation of OPEX budgets, including assessment of cash flow analysis and sensitivity analysis. We can audit (environmental) permits, technology licencing agreements and patents or assess the impact of (new) European directives or national legislation on the project. Market research for raw materials, feedstocks and products can be included in our scope.

Plant operability, capacity, up-time, availability and ramp up scenarios will eventually determine the actual cash flows that are generated in a project or new venture. A thorough analysis of this will increase the understanding of the business





3rd party witnessing

plant inspection

Sampling & analysis:

feedstock

products

fuels

waste

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(pilot) plant attesting

On site:

4-8 weeks

Due diligence (full)

Due diligence (desktop)

Technical opinion

Cross check:

- **☑** basis of design
- **☑** process flow diagram
- M HAZOP

Technology review:

- **☑** state of art assessment

Evaluation of liabilities:



Market analysis:

- **☑** product
- ✓ energy
- vendors

Economic analysis:

- ☑ CAPEX benchmark
- **☑** OPEX review
- **ॼ** sensitivity

Location & legal:

- **₫** environmental permit
- ☑ IP & licensing structure

☑ policy risks : national, EU, ...



1-2 weeks



model and its sensitivities. A full due diligence feedst expands further into (reference) site visits and inspections, vendor qualification or **third** labora

party witnessing.

Third party witnessing

Ingenia can provide independent third party witnessing of pilot or full scale plants or observe technical trials. Members of our engineering team are available to attest on an incidental or continuous (24 hours per day) basis. We can include sampling of

feedstocks and/or products and provide analysis of these samples by certified laboratories, providing maximum reliability for the results that have been achieved.

2-3 weeks

Guarantees & Acceptance Protocols

Ingenia reviews the performance guarantees that are provided by equipment vendors or comments on the specifications as provided by suppliers of raw materials. We further can draft performance and acceptance protocols for both equipment and raw materials.

Ingenia: consistent and time saving

As a result of our experience and our to the point attitude we offer tailored services that are efficient and straightforward. We will target potential high risk areas and identify strategies to mitigate, control, transfer or reduce any crucial risks. Medium or low risk areas will be acknowledged unswervingly in an early stage and are meticulously investigated at the appropriate moment in time. This method saves time and keeps the momentum high, to the advantage of both the investor and the project developer or technology provider.

