

Most frequent challenges and risks during flagship implementation

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Disclaimer

- The following slides are based on our best knowledge and on our members' experiences as they shared freely with us
- They cannot be considered a how-to guide and we hold no responsibility about the completeness and/or correctness of the information hereby presented
- There is no recipe for guaranteed success
- Every **proposal** is different
- Every **project** is different

“In theory there is no difference between theory and practice. In practice there is.”
(uncertain attribution)

Things will probably not go 100% according to the original plan.
But you can plan risk mitigation and contingency measures.

Risks, uncertainties, mitigation and contingencies

- **Risks** are events that have predictable probabilities of occurrence and outcomes that can be estimated with some confidence
- **Uncertainties** are events where probabilities of occurrence are difficult to predict and outcomes are challenging to quantify
- **Mitigation** measures are put in place to minimise the probability of a risk becoming a reality
- **Contingency** measures are put in place to minimise the losses in case of a risk becoming a reality

Recurrent challenges in FLAG projects

- **Construction and permitting** are often slower and more complex than initially anticipated
- This applies to greenfield plants, brownfield plants as well as to plants integrated into existing industrial sites. In this latter case, involvement of other operating units (possibly operated by different companies) can further prolong the timing
- Environmental permitting procedures and associated plant design revisions (if needed) can require additional time and resources and delay project execution

Recurrent challenges in FLAG projects

- **Supply chain disruptions** are possible, which lead to delays in equipment delivery and cost increases.
- This is a risk to be addressed by appropriate contingencies, e.g. phased activities or restructured work packages, in order to ensure project continuity – this requires a Grant Agreement amendment!
- As a backup solution, it is possible to halt (and resume) a project – to be first agreed with the Project Officer

Recurrent challenges in FLAG projects

- **Fluctuations in energy and raw material prices** are possible, which can undermine the competitiveness of the business plan
- The time from proposal submission to project completion is long (5-6 years). **Market conditions can change**, rendering the original business plan unviable
- Geopolitical uncertainties can exacerbate these issues
- Having a flexible business plan with multiple application areas can mitigate these risks (e.g. shifting focus between commodity and niche applications)

Recurrent challenges in FLAG projects

- **Feedstock** availability needs to be secured from the outset
- Different models have been observed in projects:
 - Stable and reliable supply from (a single) local source(s), or
 - Diversified, multi-feedstock approaches aiming to increase resilience to market fluctuations
- Feedstock seasonality and fluctuations in quantity and quality can influence considerably process efficiency
- Cross-border shipment of (secondary) biomass can be a problem – check beforehand!

Recurrent challenges in FLAG projects

- **Process scale-up** can be a challenge. Scaling is non-linear and non-trivial – i.e. a process that works smoothly at demo scale will not simply transfer to a 10x larger installation by multiplying everything by a factor 10
- Process integration usually requires various debottlenecking/optimisation iterations and can require redesign of some unit operations
- Common deviations include lower-than-expected yield or selectivity, higher-than-expected consumption of process chemicals, energy or water, higher-than-expected waste treatment requirements.

Recurrent challenges in FLAG projects

- **Certification, testing, and product validation** can sometimes require more time and resources than anticipated
- Especially when using waste/residual streams, or when entering a tightly regulated market (e.g. novel foods)

Recurrent challenges in FLAG projects

- **IP ownership and exploitation rights** can be a source of attrition in the consortium if not addressed properly and timely
- Foresee dedicated bilateral agreements on top of the GA if needed
- NB: Costs related to IPR protection of project results (e.g. consulting fees, patent application fees) and royalties paid for IPR access rights may be eligible under the project (provided they fulfil cost eligibility conditions)

Recurrent challenges in FLAG projects

- **Securing capital** from additional sources is usually needed (unless the company has the ability to finance its own investment in the biorefinery)
- Synergy with other EU instruments/national/structural funds is possible but needs to be carefully structured to avoid double funding
- In case you plan to use primary agri feedstock: **EIB just changed its rules** to allow financing projects using primary agri biomass, including food crops, as long as they are from “food secure” countries

<https://www.eib.org/en/publications/20250368-paris-alignment-framework-low-carbon-framework-v2>

Concluding remarks

- A Flagship project is an **industrial project** – plan the work as you would do if you were to undertake it privately

but also...

- A Flagship project is a **Horizon Europe project** – take into account the reporting and cost-claiming requirements when laying down the workplan

Concluding remarks

- Do you know your market?
- Do you know your supply chain?
- Do you know your partners (upstream and downstream)?
- Is the consortium fit for purpose?
- Have you got financial backing?
- Is the feedstock there?
- Is the technology proven at sufficient scale?
- Are the permits there?

Best wishes for your proposals!





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