EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.C - Green research and innovation
C.4 - Innovation Fund

Innovation Fund
Closed-door Knowledge Sharing Workshop on Permitting

The main takeaways

7 May 2025, Brussels

1. BACKGROUND

On 7 May 2025, the European Commission services hosted a closed-door knowledge-sharing workshop on Permitting at the Albert Borschette Congress Centre in Brussels. The event, organised in collaboration with DG CLIMA, aimed to provide a confidential space for the Innovation Fund (IF) and other EU funded projects to exchange best practices, discuss common challenges and share solutions related to permitting issues. Participants in the workshop represented EU Institutions, Member States and IF projects. This was the first closed-door knowledge -sharing workshop on the topic of permitting organised under the IF.

The event attracted over 250 participants, with 76 attending in person and 175 joining online. The workshop included 77 projects financed by the IF, Connecting Europe Facility and Horizon Europe, along with representatives from all the EU Member States and Norway, the European Environment Agency (EEA) and several services of the European Commission (the Directorates General of Climate Change, Energy, Environment, Internal Market Industry Entrepreneurship and SMEs, the Joint Research Centre, and CINEA Executive Agency).

The participating projects represented the full range of IF projects, including the following sectors: hydrogen, chemicals, cement & lime, energy storage, mobility, renewable energy and carbon capture and storage. Despite this variety, projects face similar challenges and obstacles, as well as promising opportunities.

Agenda:
The programme was structured into three distinct segments:

1. Introduction and context: The morning session commenced with a presentation of the key findings of the permitting survey, alongside policy updates from three prominent Directorates-General of the European Commission: DG Environment

(ENVI), DG Internal Market, Industry, Entrepreneurship and SMEs (GROW), and DG Energy (ENER).

2. Project experiences and insights: The second segment showcased the experiences of eight projects that have navigated the permitting process, offering valuable lessons learned and best practices.
3. In-depth discussion and collaboration: The final segment consisted of a closed-door roundtable discussion, where project groups engaged in a facilitated conversation to address specific questions and challenges, fostering a collaborative exchange of ideas and expertise.

2. PERMITTING: PROCESSES THAT CAN LEAD TO CHALLENGING IMPEDIMENTS

The complexity and duration of permitting procedures are considered major obstacles to the deployment of projects from different innovative technologies. This can be attributed to the complexity of the permitting procedures, as well as to their divergence among and within the 27 Member States of the EU which is a critical aspect for cross-border projects and pan-European companies. Procedures and timelines can thus vary significantly – between and within Member States, as legal and procedural differences can exist as well at regional level.
With the aim of obtaining an overview of the permitting situation of the IF project portfolio, CINEA and DG CLIMA launched a survey in October 2024 addressing all ongoing projects. The feedback collected was the basis for the workshop.

2.1. The survey:

A survey on permitting among ongoing IF projects was initiated in late 2024, driven by two key motivations:

- Real-world challenges: IF projects had been often reporting difficulties in obtaining permits, highlighting the need for a more streamlined approach.
- EU regulatory alignment: The Net Zero Industry Act ([1]) (NZIA) aims to simplify and harmonise permitting processes, presenting an opportunity to assess and improve the current state of permitting among IF projects.

Out of the 120 projects invited to participate in the survey, a significant 75% response rate was achieved, with 90 projects submitting their responses ([2])

The survey identified **four primary categories** of permits that are most frequently required by projects: **Environmental permits, Land use permits, Operational permits and Construction permits.** Local authorities were the **responsible administration for most** permit-related matters.

The survey revealed that **environmental permits** are consistently ranked as the most challenging to obtain, with construction permits being the second most burdensome. However, a more nuanced analysis of the results shows that the permitting landscape varies significantly across different sectors and geographic locations, highlighting the need for a more tailored approach to addressing permitting challenges.

([1]) Regulation - EU - 2024/1735 - EN - EUR-Lex

([2]) The vast majority of non-respondents declined to reply as they considered themselves in too early stages in the project development to be able to submit meaningful answers.

The survey highlighted several **key challenges** associated with the permitting process, including:

- **Scope and complexity**: The sheer scale of effort required to navigate the permitting process, which can be overwhelming for projects.
- **Interdependent permits and ambiguities**: The interconnected nature of permits, which can create ambiguities and inconsistencies, leading to delays and uncertainties.
- **Novelty and regulatory gaps**: The lack of harmonised standards or specific legislation for innovative solutions, which can hinder the permitting process and create uncertainty.
- **Authority capacity constraints**: The limited capacity of permitting authorities to manage a large volume of permits, which can lead to backlogs, delays, and inefficiencies in the permitting process.

A summary of the Survey results is available in the 2025 Innovation Fund annual knowledge sharing report.

2.2. Policy update:

During this session, four speakers from the Directorates-Generals for Environment (ENV), Internal Market, Industry, Entrepreneurship and SMEs (GROW), and Energy (ENER) were featured. The four presentations focused on key permitting policy developments. DG ENV presented progress made on the Environmental Impact Assessment and Industrial and Livestock Rearing Emissions Directives. This was followed by DG GROW presenting key points regarding the Net Zero Industry Act and finally, DG ENER presented the revision of the Renewable Energy Directive, focusing on the main items related to permitting.

All presentations and the keynote speech from the workshop are available at the following link Knowledge Sharing - European Commission.

3. FEEDBACK FROM PARTICIPANTS

The World Café session was structured around four roundtables, with in-person participation only. Every roundtable counted with a moderator, a rapporteur and several observers.
This format encouraged focused, intra-sector dialogue on critical decarbonisation themes, ensuring participants could engage deeply with topics aligned to their expertise and interests.

3.1 Roundtable I on Energy-Intensive Industries:

The roundtable convened projects focused on Hydrogen and Manufacturing.

A central theme of the discussion were the **challenges faced by innovative projects due to their pioneering status**. Regulatory frameworks often lag technological advancements, leaving first-of-a-kind initiatives to navigate ambiguous or incomplete guidelines.

Main issues encountered:

1. Complexity and innovation challenges:

Permitting for established technologies is straightforward, but combining multiple technologies (e.g. hydrogen production with ammonia) may create complexity and delay for example due to parallel permitting processes rather than single permitting. In addition, many projects are closely tied to specific locations (e.g. due to proximity to off-takers), making re-location an impractical solution.

Several projects mentioned the difficulties with implementation due to recent government reforms which shifted responsibility from national to local authorities, causing delays. Coordination between levels of government is often limited.

2. Streamlined processes and experience:

Leveraging existing permits and drawing on experience with similar projects can help pre-empt challenges and streamline permitting processes.

Equally critical is building upon pre-existing relationships with local authorities and staying informed about updated legislative frameworks. Authorities' growing familiarity with these innovations reduces frictions, as they now approach such projects with a clearer understanding of their technical and regulatory implications.

3. Bureaucracy and local variability:

Participants consistently highlighted the advantages of utilising "one-stop shops" as a critical tool for expediting permitting processes. These centralised platforms streamline interactions with regulatory bodies, reduce bureaucratic friction, and provide a unified point of contact for applicants.

Projects reported that in some Member States, permitting timelines vary drastically between municipalities—ranging from weeks to months due to varying local administrative practices. Personal factors, such as the efficiency or responsiveness of individual staff members, further compounded delays.

Advice for projects on permitting challenges:

A core objective of the workshop was to share insights from projects' permitting experiences, offering actionable guidance for early-stage projects to navigate the complex authorisation processes they will encounter. By highlighting real-world examples of successes, delays, and adaptive strategies, the session aimed to equip recently awarded projects with practical knowledge to streamline their preparations and address potential regulatory hurdles proactively.

Main take-aways:

1. Environmental impact assessments:

Project representatives emphasised the critical importance of conducting comprehensive and timely Environmental Impact Assessments (EIAs) at an early stage of the permitting process. Delays and regulatory setbacks often arise when EIAs are overlooked, rushed, or incomplete—particularly for sensitive ecological factors such as bird habitats, water systems, or biodiversity. Failing to address these elements thoroughly can trigger challenges from experts or authorities, prolonging approvals and increasing project costs.

2. Subcontractor/supplier selection:

Participants stressed the importance of careful subcontractor selection, emphasising that decisions should not be based solely on company size or cost. Instead, project teams must rigorously evaluate a subcontractor's track record with permitting timelines, past project

success, and technical expertise. Smaller companies, in some cases, may prove more reliable due to their agility, commitment to reputation, and tailored service delivery.

3. Power supply and location strategy:

The strategic importance of researching power supply requirements and permitting frameworks across multiple jurisdictions cannot be overstated. When choosing a project location, it is of paramount importance to undergo an early assessment of the availability of the power supply and the related permitting process that will provide access to the grid.

4. Stakeholder engagement:

Project representatives emphasised that establishing relationships with key local authorities before and during the permitting process is essential for streamlining the approval process.

5. Adaptability and realism:

Simplicity in project design was found to facilitate smoother permitting approvals. While pre-planning for delays and bureaucratic challenges in smaller Member States with limited regulatory capacity was found to be paramount.

6. Learning from past mistakes:

Validate assumptions early (e.g., power supply timelines) and remain flexible as project details evolve.

7. Regulatory shifts:

Projects often assume permits guarantee smooth progress, but regulatory changes can still disrupt operations even after a project is underway.
For example, in some Member States, periodic reviews of chemical regulations (e.g., lists of approved substances for industrial processes) could lead to bans on chemicals critical to a project's design. This underscores the risk of relying on current regulatory frameworks, as future changes may halt or require costly modifications to projects. The key takeaway is to proactively assess and plan for potential regulatory shifts as a critical risk factor.

3.2 Roundtable II on Energy-Intensive Industries:

The roundtable convened projects focused on Chemicals, Cement & Lime, and other EIIs.

On the adequacy of permitting processes and whether the regulations seemed outdated, project representatives stressed that the permitting processes for innovative projects often failed to account for their novel aspects. Regulatory frameworks often lack consideration for innovation, requiring clearer harmonisation, improved technical capacity, and adaptive permitting processes to support cutting-edge projects.

Main issues encountered:

1. Regulatory challenges and harmonisation needs:

Several projects face challenges with outdated or misaligned regulations, particularly concerning waste classification and permitting processes. There is a strong call for harmonisation, as inconsistent regulations between EU and national laws, and even within countries, lead to complexities and delays.

2. Technical capacity issues:

In some cases, authorities lacked expertise with innovative projects, leading to delays up to one year resulting in a heavy cost overrun.

3. Harmonisation problems:

In some cases, projects reported lack of alignment on the responsibility's allocation between national and local authorities during the issuing of certain permits. In addition, projects also encountered inconsistency in permitting requirements (e.g., situations where a single permit is required, which itself depends on other interdependent authorisations, often resulting in delays and bottlenecks).

4. Time delays:

Many projects report lengthy and complicated permitting processes. The complexity is increased by multiple layers of regulations and numerous authorities involved, each with the power to appeal.

Another point of the discussion was the comparison of project participants **experience in EU/EEA and non-EU countries.**

Workshop participants shared experiences from third countries to identify best practices for improving EU permitting processes. For example, in the U.S., permitting is state-decentralised, with minimal upfront requirements but strict post-implementation compliance checks. The EU, by contrast, demands extensive upfront data submission, which often delays projects. This reflects the EU's focus on rigorous pre-approval scrutiny versus the U.S. approach, which prioritises flexibility and addresses compliance issues if needed post-implementation. Another example is the UK that has national regulations whereas in some EU Member States many permits are managed and framed by regional rules.

Advice for projects on permitting challenges. Participants emphasised the following key strategies:

1. Stakeholder engagement & site selection:

Stress the importance of strategic site selection and early engagement with local authorities to pre-empt challenges.

2. Project management & flexibility:

Prioritise robust project management and allocate buffer time to address permitting complexities and integrate emerging technologies.

3. Importance of early engagement and communication and regulatory preparedness:

Engaging early with local authorities and communities is crucial. Successful strategies include clear communication, public engagement, and proactive relationship-building with stakeholders to minimise misunderstandings and opposition. Emphasise meticulous planning and proactive communication to anticipate regulatory requirements and align with expectations.

In addition, projects provided feedback on the **NZIA initiative in which Strategic Projects** will be offered **streamlined permitting processes** of less than 12 months (or 18 months for CCS and some complex projects) with a one-stop-shop for applicants.

The Regulation is broadly welcomed, though implementation remains a key hurdle due to slow process of adapting existing permitting procedures and creating one-stop-shops. Participants acknowledged its value but emphasised that speeding permitting requires systemic alignment and political will.

While supporting streamlined permitting processes, participants stressed that successful implementation hinges on national authorities having sufficient capacity, resources, and decision-making authority to drive reforms.

3.3 Roundtable III on Energy Storage (ES), Mobility (MOB), Renewable Energy (RES)

The roundtable convened projects focused on Energy Storage, Mobility and Renewable Energies.

When asked about **adequacy of permitting processes and whether the regulations seemed outdated**, project representatives stressed that administrative inefficiencies, policy misalignment with emerging technologies, and insufficient regulatory agility are systemic challenges. Strengthening local governance, streamlining multi-authority processes, and prioritising grid planning are essential for enabling innovation in energy projects.

Main issues encountered:

1. Administrative bottlenecks & capacity gaps:

Project representatives highlighted delays due to local governments failing to adopt EU-standard processing times and lacking sufficient resources. They also emphasised the need to reinforce local governance capabilities.
Other projects faced slow, fragmented processes with applications bouncing between local, energy incumbents, and central authorities, despite existing regulations.

2. Regulatory & policy challenges:

Projects struggled with policy overhauls targeting offshore wind as an established technology, marginalising smaller and innovative wave projects. The new bidding system for pre-selected offshore sites disadvantaged such projects.
In addition, the complexity of designing grid projects within strict regulatory frameworks stressed the importance of planning to ensure grid capacity aligns with power generation timelines.

3. Technology-specific hurdles:

One example, in which the permit was rejected, experienced difficulties due to offshore electrolysis not fitting existing regulations. Other projects in the renewable energy and sustainable heat sectors instead reported that relatively clear regulations exist, but implementation, in terms of permitting procedures, remains slow.
National regulatory bodies participants acknowledged delays in creating frameworks for new technologies (e.g., hydrogen), compounded by staffing shortages and the need to comply with overlapping Directives (e.g., habitat protection).

4. Support & competition:

Project representatives highlighted the importance of the support from local authorities.
Status of regulatory frameworks can enhance competition among different types of projects. For example, offshore wind projects where policies on development and grid access are well advanced may leave hybrid projects (neither onshore/ offshore) in limbo due to the complexity in the policy framework.

5. Cross-cutting themes:

- Grid planning: Critical for matching generation and onshore grid capacity.
- Transboundary considerations: need for cross-border coordination.

Staffing & economic constraints: The technical complexity of these projects renders it difficult to attract specialised talent within regulatory agencies overseeing permitting processes. One of the reasons is that the labour market often presents more attractive opportunities for these professionals.

Advice for projects on permitting challenges: The discussion underscored the need for proactive planning, adaptive timelines, and robust stakeholder engagement to navigate regulatory, environmental, and social challenges in renewable energy projects. Among the key recommendations:

- Prioritise pre-permitted sites and early stakeholder engagement.
- Build flexibility into timelines and budgets to accommodate regulatory and ecological challenges.
- Improve EIA processes through integration with strategic assessments and proactive community communication to mitigate opposition.

Main points made during the discussion:

1. Site selection & permitting challenges:

Projects emphasised selecting pre-permitted sites with existing infrastructure to avoid uncertainties and delays. Starting from scratch risks missing the 4-year Financial Close (FC) deadline ([3]).
Some initial planning assumptions are overly optimistic, leading to current challenges.
Participants also highlighted the difficulty of accomplishing milestones related to their grant agreements while responses on permitting processes from public administration often come much later than planned.

2. Timeline & regulatory pressures:

Given the four-year timeframe outlined in the IF for achieving financial close, it is critical that projects proactively develop their permitting strategies well ahead of proposal submission, ensuring these strategies are already in a substantial state of advancement by the time proposals are finalised. This is especially critical for aspects such as environmental permits and consultations, which often require the longest lead times. Some participants stressed the need for flexible planning with buffer time and budget, as pioneering projects face unforeseen issues.

3. Public opposition & community engagement:

Public opposition is a major concern for Transport System Operators, often delaying projects. Projects stressed the importance of demonstrating community benefits and early engagement to gain local consent.
For example, public opposition may arise if local leaders (e.g., mayors) are not well informed about projects or downgrade their support. Project representatives raised fears that events such as the Spanish blackout could fuel anti-RES sentiment.

4. Knowledge sharing & process improvements:

Project representatives advocated for collaboration and knowledge-sharing among stakeholders.
Projects asked for initiatives that help streamlining EIAs by linking them with Strategic Environmental Assessments (SEAs) to avoid outdated studies and reduce administrative

([3]) In the Innovation Fund 'financial close' is the moment in the project development cycle where all the project and financing agreements have been signed and all the required conditions contained in them have been met.

burden. Participants confirmed that initial studies often become obsolete by the time final permits are applied for.

3.4 Roundtable IV on Carbon capture and geological storage (CCS):

The roundtable convened projects focused on carbon capture and geological storage of CO_2.

Asked on whether the **existing permitting processes considered project innovation**, project representatives expressed the need of policymakers and regulators proactively updating technical guidelines to reflect emerging technologies and establish clearer pathways for validating innovative measurement methods.

Main issues encountered:

1. Current permitting gaps:

The Industrial Emissions Directive (IED)[4] requires standards, such as fixed O_2 measurement conditions, which can be hard to achieve for innovations like CO_2 capture, resulting in compliance outcomes that fail to align with evolving technological advancements.

2. Need for adaptability:

Regulatory frameworks must evolve to recognise and integrate innovative technologies, requiring updated Best Available Technologies definitions, streamlined approval processes, and cross-border knowledge sharing (e.g., via knowledge sharing activities like those promoted by CINEA).

Regarding **regulatory frameworks**, projects also stressed the need to standardise permitting requirements, streamline permitting processes for CCS projects, provide updated technical guidance to reflect emerging technologies and coordination among authorities.

3. Regulatory flexibility needed:

The Water Framework Directive's rigid site eligibility criteria and incomplete transposition by Member States hinder innovation in CCS. Clearer guidelines on CO_2 composition and site suitability are essential to support safe, future-proof projects.

4. CO2 storage permitting:

Regarding the applicable rules for **permitting for CO_2 storage** participants stressed the need to harmonise EU policies to support onshore storage, establish cross-border storage frameworks (e.g., with third Countries), and update technical guidelines to maximise storage potential saline aquifer geologies in addition to depleted hydrocarbon reservoirs.

The fundamental problems should be approached through:

I. Addressing policy and geographical gaps:

The fragmented approach across Member States regarding onshore storage and saline aquifer access hinder progress.

[4] Directive 2010/75/EU-EUR-Lex

II. Implementation of alternative solutions:
The implementation of other solutions for CO2 storage such as optimising saline aquifer pressure that can offer a scalable answer but would require updates of the permitted thresholds.

III. Cost and competitiveness:
Prioritising onshore storage in the EU could reduce costs and align with global practices (e.g., like U.S.), improving the competitiveness of carbon management projects.

4. CONCLUSIONS

The permitting survey acted as a critical starting point for this workshop, highlighting the urgency and importance of addressing permitting challenges.
Permitting is a critical barrier for projects, particularly for innovative or first-of-a-kind initiatives. Challenges include the high effort required, tight timelines, and the complexity of navigating regulatory frameworks tailored for conventional projects.

The feedback gathered from the roundtables underscore the urgent need for harmonised, adaptive regulatory frameworks that balance local context with cross-border coordination, while improving accessibility to streamlined permitting solutions, and fostering public-private collaboration.
While some projects reported no significant challenges, many emphasised the critical importance of proactive engagement with regulatory bodies and local stakeholders to navigate complex procedures.

Some of the key issues identified include:
- Public acceptance challenges: Opposition to renewable energy installations and large industrial projects in proximity to urban areas.
- Regional regulatory fragmentation: Inconsistent permit requirements within the same Member State, creating compliance hurdles. This is particularly critical for environmental impact assessments and permits.
- Administrative delays and inefficiencies: Prolonged timelines and the absence of one-stop shops to consolidate permitting applications. Limited capacity of authorities to manage large volumes of permits and the complexity of innovative solutions.
- Interdependency of permits: interconnected authorisations may lead to loopholes and inconsistencies.
- Novelty and regulatory gaps: lack of specific legislation for innovative solutions and regulatory shifts, lack of access to onshore CO_2 storage in the EU.
- Technological complexity: Permitting for established technologies is more straightforward, but integrating multiple technologies (e.g., hydrogen production with energy storage) introduces parallel, time-intensive approval processes.
- Geographic and sectoral dependencies: Projects requiring co-location with off-takers face limitations in relocating, underscoring the need for streamlined, cross-sector permitting frameworks that address location-specific constraints and technological synergies.
- Reliance on external expertise: Many stakeholders highlighted the need for external consultants to navigate intricate permitting requirements.
- Lack of a system integration approach: dependency on the development of other infrastructure such as grids and transport.

To address these issues, stakeholders recommend:

- Enhanced early coordination with regulatory authorities to streamline processes and clarify requirements.
- Adopting flexible permitting approaches that account for the unique nature of innovative projects.
- Increasing resources (e.g., staffing, funding) to support both project developers and regulatory bodies.
- Promoting knowledge sharing among stakeholders to build expertise and avoid redundant efforts.
- Strengthening regulatory capacity. Invest in training and tools for authorities to evaluate novel technologies and decarbonisation projects.
- Establishing streamlined permitting pathways for pilot projects and decarbonisation initiatives to reduce delays.
- Harmonising rules for CO_2 storage in saline aquifers across Member States.
- Simplifying bureaucratic processes by reducing redundant documentation and harmonising requirements across jurisdictions.
- Working with local stakeholders to overcome public acceptance hurdles.
- Following a system integration approach to support the development of other critical infrastructures.

Projects with a significant innovative focus face many challenges throughout each stage of the process. However, permitting is one of those stages that can determine whether a project moves forward or not. These projects are often the frontrunners who must pave the way to ensure that regulations adapt to them and permitting processes meet their needs.

The exchange of experiences between projects is important to anticipate problems and to identify persistent challenges, which should be addressed at Member State or European level.