

The impact of planning and regulatory delays for energy infrastructure^{1,2}

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INTRODUCTION

Effective planning and regulatory processes ensure timely delivery of infrastructural projects, such as electricity generation and transmission systems. Decision delays can increase cost and, ultimately, reduce consumer welfare. This research shows that regulatory delays associated with the delivery of energy infrastructure have substantial impacts on electricity prices, system emissions, and system costs. We focus on how the organisation of the planning and regulatory processes affect these outcomes, as opposed to the content of the planning and regulatory scrutiny.

METHODS

We track hypothetical projects through the sequential steps of planning permission, grid connection, and the Renewable Electricity Support Scheme (RESS). This approach illustrates how the development time for energy projects is influenced by the organisational rules of the planning/regulatory processes. Having identified a timeline of infrastructural investment, we utilise a model of the Irish electricity system, known as ENGINE, to analyse the impact of several renewable energy project delay scenarios on power systems costs, carbon emissions, and electricity prices.

FINDINGS

Extended decision times on the development of new renewable electricity generation leads to higher carbon emissions in the short term, as thermal power plants must fill the gap. We investigate a number of scenarios of regulatory delay.

¹ This Bulletin summaries the findings from: Longoria, G., Farrell, N., Lynch, M., and Curtis, J., "The impact of extended decision times in planning and regulatory processes for energy infrastructure", *Utilities Policy*. <https://doi.org/10.1016/j.jup.2024.101824>

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For the analysed scenarios, we find that wholesale electricity prices are up to 10% higher and CO₂ emissions up to 4% higher. These delays are separate to delays associated with developers securing financing, or public opposition and planning appeals.

POLICY RECOMMENDATIONS

As many sequential processes are involved in the delivery of energy infrastructure, a delay in one process can have a disproportionate impact on the overall timeline of delivery. Until recently, applications for grid connection or subsidy support under the RESS scheme occurred annually, either in September or March. If developers missed one application window (or 'gate') due to regulatory delay, a further year is potentially added to their project's delivery timeframe. More frequent application windows could reduce the incidence of such delays. We find that these gates should occur at least twice annually. In September 2024, subsequent to the completion of this research, the Commission for Regulation of Utilities (CRU) announced that gates for grid connection applications will occur every 6 months. This will begin in 2025.

In addition, enhanced coordination between regulatory and planning authorities could aid project delivery, streamlining the entire regulatory process for large-scale energy developments. We recommend that applications for authorisations could occur in parallel, and better coordination between regulatory bodies could reduce the administrative burden on applicants and regulatory authorities. Reforms enacted in September 2024 appear to better facilitate parallel application. This recommendation is consistent with earlier research calling for a 'One-Stop-Shop' regulatory mechanism for large-scale energy project approval and the EU Commission's recommendation under the REPowerEU plan to tackle slow and complex permitting for major renewable projects.