Nuclear Power in Ireland – Realities, Risks and Solutions

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Aim of the Project

The aim of this dissertation was to explore whether nuclear energy could realistically be introduced in Ireland, and to assess the potential pathways for its implementation.

Background and Context

Ireland has always relied on fossil fuels and renewable energy sources, avoiding nuclear energy due to its political, economic, and public perception concerns. However, with rising energy demands and the need to cut carbon emissions, nuclear power could be a practical solution.

Public Perception of Nuclear In Ireland

Do you think Ireland should consider nuclear power to meet its future energy demands?

38 responses

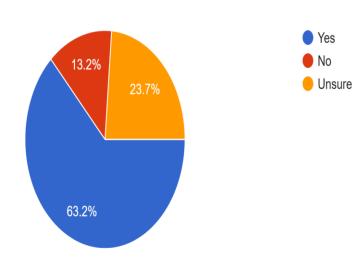


Figure 1: Should Ireland consider nuclear energy

Public perception is the biggest barrier to nuclear energy in Ireland.

The survey conducted shows that 63.2%(24) of respondents believe that Ireland should consider nuclear power as part of its future energy strategy. This suggests that support is stronger than expected.

Money Point

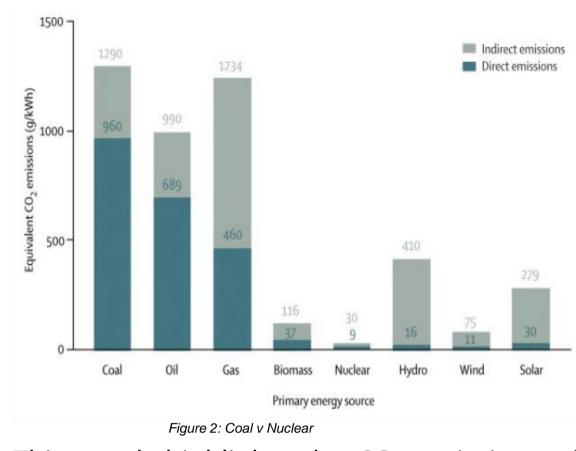
This project identified Money point as the most realistic option for hosting a Small Modular Reactor (SMR).

This is due to its size, location, and existing energy function.



Photo of: Money Point

Energy Insights



This graph highlights the CO₂ emissions of different primary energy sources, measured in grams per kilowatt-hour.

Nuclear energy has some of the lowest combined direct and indirect emissions, significantly outperforming fossil fuels and even some renewables.

Conclusion

This project shows that SMRs could work in Ireland. Survey results, case studies, and site analysis all support their feasibility. Public support is strong. Money point is a viable location. With the right approach, nuclear can support Ireland's clean energy future.



Figure 3: Slogan for Nuclear integration

Small Modular Reactors



This is a real-world example of a Small Modular Reactor (SMR), similar in design to those discussed throughout this project. Unlike traditional plants, SMRs are modular, compact, and factory-built for rapid deployment. They're designed to be incredibly safe, with passive cooling systems and strong containment. Units like this could be delivered to sites like Money point, and generate clean energy within years, not decades.

References

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SEAI (2023) Energy in Ireland 2023 Report. **NuScale Power (2023)** SMR Overview and Technical Fact Sheet.

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European Commission (2022) EU Taxonomy: Nuclear Energy as a Transitional Activity

Photo of: Small Modular Reactor