A Review of the Current Energy Systems Supplying Limerick City and an Analysis of Modern Renewable Energy Systems to Reduce Carbon Emissions

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Introduction

This research project undertakes an in-depth examination of the existing energy supply systems in Ireland, zoning down on Limerick city, and seeks to ascertain the viability of integrating modern renewable energy technologies for reducing current carbon emissions.

Objectives

Objective 1 - *Assessing Limerick City's Current Energy Supply Systems*

Objective 2 - *Identifying Suitable Renewable Energy Solutions for Limerick City*

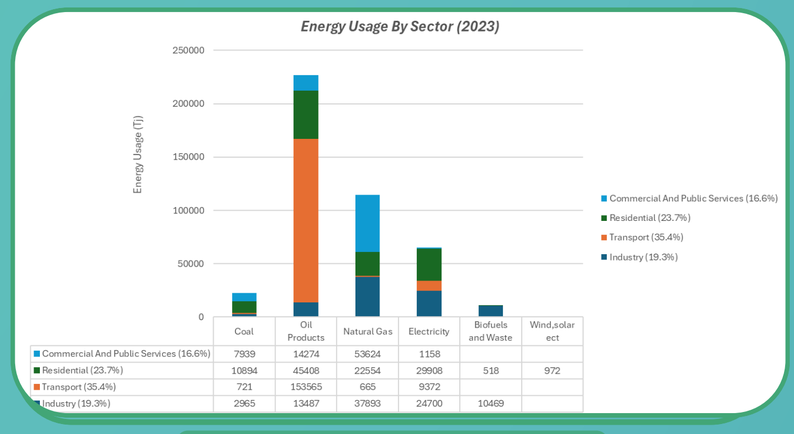
Objective 3 - *Comparative Analysis of Renewable Energy Systems*

Objective 4 - *Sustainable Energy Solutions for Limerick City*

Ireland's Targets

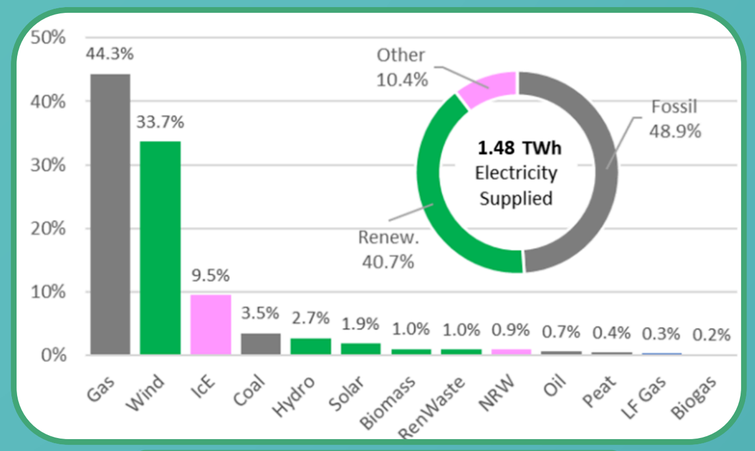
- *8 GW Solar Farm and 16 GW wind farm by 2030,*
- *Coal Phase out by 2030,*
- *Moneypoint's gas usage (interim),*
- *2 GW Hydrogen Storage Plans by 2035,*
- *50% renewable energy by end of 2025,*
- *80% renewable energy target by 2030*

Findings



	Coal	Oil Products	Natural Gas	Electricity	Biofuels and Waste	Wind,solarect
Commercial And Public Services (16.6%)	7939	14274	53624	1158		
Residential (23.7%)	10894	45408	22554	29908	518	972
Transport (35.4%)	721	153565	665	9372		
Industry (19.3%)	2965	13487	37893	24700	10469	

Limerick Energy Mix (2023)

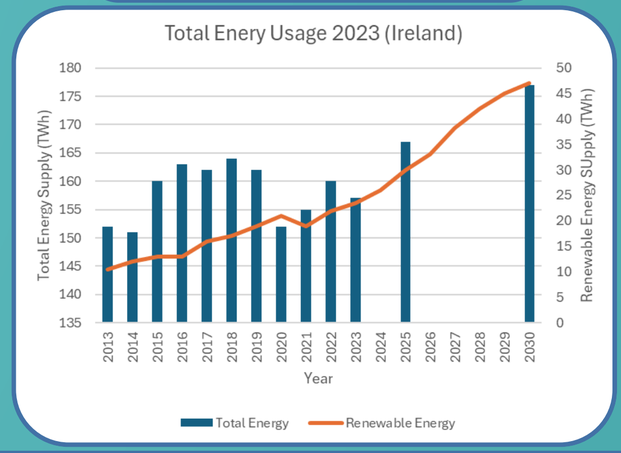


Energy Usage By Sector (2023)

Conclusion

In conclusion, Limerick's investment in solar energy and wind farms demonstrates a promising commitment to renewable energy. Further development of these sources will enable the city to reduce their reliance on fossil fuels.

Results



Energy Consumption vs Renewable Energy Production

Discussion

In order to reduce carbon emissions and mitigate climate change, it is crucial to transition from Natural Gas, which currently serves as Limerick City's primary energy source, to renewable alternatives. The most suitable renewable energy solutions for Limerick City include an increased reliance on wind, and solar power. With the possibility of exploring hydroelectric solutions

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