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BIBLIOGRAPHY

Introduction

- Bitpower (November 2021). Ireland's Data Hosting Industry – Biannual Report
- Kilkenny County Council (2021). Kilkenny City and County Development Plan 2021-2027.
- Laois County Council (2022). Laois City and County Development Plan 2021-2027.
- Department of Environment, Climate and Communications (2023) Climate Action Plan 2024.
- Department of Environment, Climate and Communications (2025) Climate Action Plan 2025
- Department of Environment, Climate and Communications (2021). Climate Action and Low Carbon Development (Amendment) Bill 2021.
- Department of Communications, Climate Action & Environment (2021). Climate Action Plan 2021
- Department of Communications, Climate Action & Environment (2022). Climate Action Plan 2023
- Department of Communications, Energy & Natural Resources (2015). Ireland's Transition to a Low Carbon Energy Future 2015-2030.
- Department of Communications, Energy & Natural Resources (2014). Draft Bioenergy Plan 2014.
- Department of the Environment, Community and Local Government (2013). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. DoEHLG, Dublin.
- Department of the Environment, Heritage and Local Government (2006). Wind Energy Development Guidelines for Planning Authorities. DoEHLG, Dublin.
- Department of Housing, Planning and Local Government (December 2019) Draft Revised Wind Energy Development Guidelines. DHPLG, Dublin.
- Department of Housing, Planning and Local Government (August 2018) Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment. DHPLG, Dublin.
- Department of Housing, Planning and Local Government (June 2017) Review of the Wind Energy Development Guidelines 2006 – Preferred Draft Approach. DHPLG, Dublin.
- Department of Housing, Planning and Local Government (2013) Proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review. DHPLG, Dublin.
- Department of Public Expenditure and Reform (DPER) (2013). Future Expenditure Risks associated with Climate Change/Climate Finance.
- Dr Eimear Cotter, Head of Low Carbon Technologies, SEAI - "Energy Security in Ireland 2015"
- EirGrid (October 2022) All Island Generation Capacity Statement 2022-2031.

Environmental Protection Agency (2002) Guidelines on Information to be Contained in Environmental Impact Statements. EPA, Wexford.

Environmental Protection Agency (2003) Advice Notes on Current Practice in the Preparation of Environmental Impact Statements. EPA, Wexford.

Environmental Protection Agency (September 2015): Draft - Advice Notes on Current Practice (in the preparation on Environmental Impact Statements). EPA, Wexford.

Environmental Protection Agency (2016): Ireland's Environment – An Assessment.

Environmental Protection Agency (May 2022): Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. EPA, Wexford.

Environment Protection Agency (June 2023) Ireland Greenhouse Gas Emissions Projections 2022-2040

Environmental Protection Agency (July 2023): Ireland's Provisional Greenhouse Gas Emissions 1990-2022.

Environmental Protection Agency (2023): Air Quality in Ireland 2022.

European Commission (March 2022) REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition. Brussels. https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131

European Commission (March 2022) REPowerEU: Joint European Action for more affordable, secure and sustainable energy. Strasbourg. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1511

European Commission (2017). Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report.

European Environmental Agency (2022): Air Quality in Europe – 2022 Report

European Union (2018). Directive 2018/2009/EU. European Parliament and European Council.

European Union (2014). Directive 2014/52/EU. European Parliament and European Council.

European Union (2011). Directive 2011/92/EU. European Parliament and European Council.

European Union (2009). Directive 2009/147/EC. European Parliament and European Council.

European Union (1992). Directive 92/43/EEC. European Parliament and European Council.

European Union (2017) Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU).

European Union (2017) Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU).

European Union (2017) Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU).

Government of Ireland (April 2022). National Energy Security Framework (NESF).

Government of Ireland (2021). National Development Plan 2021-2030.

IEA (2024), Renewables 2023, IEA, Paris

RECEIVED: 09/07/2025

IPCC, 2022: Climate Change 2022: Impacts, Adaptation and Vulnerability. Sixth Assessment Report, Intergovernmental Panel on Climate Change AR6 Report.

IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Sixth Assessment Report, Intergovernmental Panel on Climate Change AR6 Report.

IPCC, 2021: Climate Change 2021: The Physical Science Basis. Sixth Assessment Report, Intergovernmental Panel on Climate Change AR6 Report.

IPCC Fifth Assessment Synthesis Report (2014). Intergovernmental Panel on Climate Change AR5 Report.

IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

Ireland Wind Energy Association (2015). Data Centre Implications for Energy Use in Ireland

IRENA (2023), IRENA's energy transition support to strengthen climate action: Insight to impact 2023, International Renewable Energy Agency, Abu Dhabi.

Irish Statute Book (2018). European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

Irish Statute Book (2001). Planning and Development Regulations (as amended) S.I. No. 600 of 2001. Stationery Office, Dublin.

Irish Statute Book (2000). Planning and Development Acts 2000 to 2019. Stationery Office, Dublin.

Joint Committee on Climate Action (March 2019). Climate Change: A Cross-Party Consensus for Action

Kilkenny County Council (2020). Tipperary County Development Plan 2021-2027.

Pöyry & Element Energy (2015) Potential CCS Cost Reduction Mechanisms Summary

Pöyry (March 2014). The Value of Wind Energy to Ireland.

Sustainable Energy Authority of Ireland (December 2022): Ireland's energy-related CO2 emissions heading in wrong direction. http://www.seai.ie/News_Events/Press_Releases/2014/Biomass-is-a-big-part-of-the-solution-but-not-the-whole-solution.html

Sustainable Energy Authority of Ireland (April 2016): Ireland's Energy Targets – Progress, Ambitions & Impacts.

Sustainable Energy Authority of Ireland (November 2023) National Energy Projections – 2023 Report

Sustainable Energy Authority of Ireland (January 2024): Energy in Ireland – 2023 Report.

Wind Energy Ireland (April 2021). Economic Impact of Onshore Wind in Ireland.

World Meteorological Organisation (2024) State of the Global Climate 2023

RECEIVED: 09/07/2025

Background to the Proposed Development

Climate Change Advisory Council (2022). Annual Review 2022.

Climate Change Advisory Council Carbon Budget Technical Report (October, 2021)
<https://www.gov.ie/en/publication/9af1b-carbon-budgets/>

Commission for Regulation of Utilities (2018) Enduring Connection Policy Stage 1 (ECP-1). Dublin

Council Regulation (EU) 2022/2577, at Recital 1.

Department of Climate Change, Action & Environment (2021). Climate Action and Low Carbon Development (Amendment) Bill 2021.

Department of Climate Change, Action & Environment. Renewable Energy Support Scheme

Department of Climate Change, Action & Environment (2018). National Adaptation Framework - Planning for a Climate Resilient Ireland 2018.

Department of Climate Change, Action & Environment (2017) National Mitigation Plan 2017

Department of Climate Change, Action & Environment (2017). Fourth Progress Report on the National Renewable Energy Action Plan.

Department of Climate Change, Action & Environment (2016). Draft Renewable Electricity Policy and Development Framework.

Department of Climate Change, Action & Environment (2016). Code of Practice for Wind Energy Development in Ireland - Guidelines for Community Engagement 2016.

Department of Communications, Energy & Natural Resources (2015). Ireland's Transition to a Low Carbon Energy Future 2015-2030.

Department of Communications, Energy & Natural Resources (2015). White Paper on Energy Policy in Ireland 2015-2030, Dublin.

Department of Communications, Energy and Natural Resources (2012). Strategy for Renewable Energy 2012 – 2020

Department of Environment, Climate and Communications (2022). Climate Action Plan 2023.

Department of Environment, Climate and Communications (2023) Climate Action Plan 2024.

Department of Environment, Climate and Communications (2022). National Energy Security Framework 2022.

Department of the Environment, Heritage and Local Government (2006). Wind Energy Guidelines 2006.

Department of Housing, Planning, Community and Local Government (2017). Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change.

Department of Housing, Planning, Community and Local Government (2017). Department Circular PL5/2017

Department of Housing, Planning, Community and Local Government (2019) Draft Revised Wind Energy Development Guidelines

Department of Agriculture, Food and Marine. Forest Service Guidelines

RECEIVED: 09/07/2025

- Department of Agriculture, Food and Marine. Environmental Requirements for Afforestation (2016).
- EirGrid (2020) All Island Generation Capacity Statement 2020 – 2029, Dublin.
- EirGrid (October 2022). All Island Generation Capacity Statement 2022 – 2031.
- Eirgrid (2019). Strategy 2020-2025: Transform the Power System for Future Generations
- Eirgrid (2017). Grid Implementation Plan 2017-2022 for the Electricity Transmission System in Ireland.
- Eirgrid (2016). Transmission Development Plan 2016-2026.
- Environmental Protection Agency (2021). Ireland's Greenhouse Gas Emission Projections 2020-2040.
- Environmental Protection Agency (June 2022). Ireland's Greenhouse Gas Emission Projections 2021-2040.
- Environmental Protection Agency, Marine Institute, Met Éireann (August 2021). Climate Status Report for Ireland 2020.
- European Commission (March 2022) REPowerEU.
- European Commission (July 2021) European Climate Law.
- European Commission (July 2021). 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality.
- European Commission (December 2019). European Green Deal.
- European Commission (2011). Energy Roadmap 2050.
- European Commission (2022). Energy and the Green Deal. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/energy-and-green-deal_en
- European Union (2018). Directive 2018/2001/EU. European Parliament and European Council.
- European Union (2018). Effort Sharing Regulation (ERS).
- European Union (2017). Fit for 55. <https://www.consilium.europa.eu/en/policies/eu-plan-for-a-green-transition/>
- European Union (2014). 2030 Climate and Energy Framework.
- Eurostat (2023). '23% of energy consumed in 2022 came from renewables'. <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/ddn-20231222-2>
- Eurostat (2022). Share of energy from renewable sources. https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren_custom_9264705/default/bar?lang=en
- Government of Ireland (2021). National Development Plan 2021-2030.
- Government of Ireland (2020) Programme for Government 2020.
- Government of Ireland (2018). Project Ireland 2040 National Planning Framework
- Institute of Acoustics (2013). Good Practice Guide To The Application Of Etsu-R-97 For The Assessment And Rating Of Wind Turbine Noise.
- Institute of Air Quality Management (2016). Guidance on the Assessment of Mineral Dust Impacts for Planning.

RECEIVED: 09/07/2025

Climate Change 2023 Synthesis Report (IPPC)
https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf

Intergovernmental Panel on Climate Change (August 2021). Climate Change 2021 'The Physical Science Basis'.

Intergovernmental Panel on Climate Change (October 2018). Global Warming of 1.5°C

Irish Statute Book (2000). Planning and Development Acts 2000 to 2019. Stationery Office, Dublin.

Irish Wind Energy Association. <https://www.iwea.com/about-wind/faqs>

Irish Wind Energy Association (2013). Best Practice Principles in Community Engagement and Community Commitment 2013.

Irish Wind Energy Association (2012). Best Practice Guidelines for the Irish Wind Energy Industry.

Joint Committee on Climate Action (2019). Climate Change: A Cross-Party Consensus for Action.

Laois County Council (2021) Laois County Development Plan 2021-2027

Laois County Council (2021) Appendix 5 - Wind Energy Strategy

McCarthy, D. (2023) Independent Review on the Security of Electricity Supply.
<https://www.gov.ie/pdf/?file=https://assets.gov.ie/276441/eb496e01-5c01-4594-af09-74342b4ac971.pdf#page=null>

National Energy Security Framework (2022).

Scottish Natural Heritage (2012, 2018). Assessing the Cumulative Impacts of onshore Wind Energy Developments.

Southern Regional Assembly (2020). Regional Spatial and Economic Strategy, Southern Region, 2020.

Sustainable Energy Authority of Ireland (2024), Energy in Ireland 2024 Report

Sustainable Energy Authority of Ireland (2022), Energy in Ireland 2022 Report.

Sustainable Energy Authority of Ireland (2021), Energy in Ireland 2021 Report.

Sustainable Energy Authority of Ireland (2019), National Energy Projections.

Sustainable Energy Authority of Ireland (SEAI) website, www.seai.ie

Transport Infrastructure Ireland (2022). Air Quality Assessment of Proposed National Roads – Standard PE-ENV-01107, December 2022.

Kilkenny County Council (2021) Kilkenny City and County Development Plan (2021-2027)

Kilkenny County Council (2021) Appendix K - Wind Energy Development Strategy 2021

United Nations (1992). United Nations Framework Convention on Climate Change

United Nations (1997). Kyoto Protocol to the United Nations Framework Convention on Climate Change

United Nations (2012). Doha Amendment to the Kyoto Protocol

United Nations (2015). COP21 Paris Agreement, Paris.

RECEIVED: 09/07/2025

United Nations (2021). COP27 Climate Change Conference, Sharm el-Sheikh

World Meteorological Organisation, (2024) State of the Global Climate 2024, Update for COP29
<https://library.wmo.int/records/item/69075-state-of-the-climate-2024>

World Meteorological Organisation, (2023) State of the Global Climate 2023
<https://library.wmo.int/records/item/68835-state-of-the-global-climate-20242021>

General Secretariat of the Council of the European Union, Outcome of Proceedings: Proposal for a COUNCIL REGULATION laying down a framework to accelerate the deployment of renewable energy (File no. 022/0367(NLE))
(22.12.2022)

RECEIVED: 09/07/2025

Consideration of Reasonable Alternatives

Department of Environment, Climate and Communications (2022). Climate Action Plan 2023.

Department of Environment, Climate and Communications (2023). Climate Action Plan 2024.

Department of Environment, Climate and Communications (2025). Climate Action Plan 2025.

Department of Housing, Planning and Local Government (December 2019) Draft Revised Wind Energy Development Guidelines. DHPLG, Dublin.

Department of the Environment, Heritage and Local Government (2006). Wind Energy Development Guidelines 2006.

Environmental Protection Agency (2022): Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

European Union (2017) Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU).

European Union (2014). Directive 2014/52/EU. European Parliament and European Council.

European Union (2011). Directive 2011/92/EU. European Parliament and European Council.

Irish Statute Book (2000). Planning and Development Acts 2000 to 2019. Stationery Office, Dublin.

Irish Wind Energy Association (2012). Best Practice Guidelines for the Irish Wind Energy Industry.

Sustainable Energy Authority of Ireland Solar Energy FAQ Publication
https://www.seai.ie/publications/FAQs_on_Solar_PV.pdf

RECEIVED: 09/07/2025

RECEIVED: 09/07/2025

Description of the Proposed Development

Agriculture and Food Development Authority (2014). Forestry Act 2014.

British Standards Institution (BSI) (2009) 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise

<https://www.thenbs.com/PublicationIndex/documents/details?Pub=BSI&DocID=305965>

COFORD (2004): Forest Road Manual – Guidelines for the Design, Construction and Management of Forest Roads.

Coillte (2013): Forest Operations & Water Protection Guidelines.

Commission for the Regulation of Utilities (2017) Review of Typical Consumption Figures Decision.

<https://www.cru.ie/publications/25651/>

Construction Industry Research and Information Association (CIRIA) (2006). Guidance on ‘Control of Water Pollution from Linear Construction Projects’ (CIRIA Report No. C648, 2006).

Construction Industry Research and Information Association (CIRIA) (2006). : Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors. CIRIA C532. London.

Construction Industry Research and Information Association (CIRIA, No. C648, 1996) Control of Water Pollution from Linear Construction Projects

Department of Agriculture, Environment, and Rural Affairs (2022). Hedgerow establishment and restoration

Department of Communications, Climate Action and Environment (2022) Renewable Electricity Support Scheme (RESS) 3. DCCAE, Dublin.

Department of Communications, Climate Action and Environment (2022) Renewable Electricity Support Scheme (RESS) 2. DCCAE, Dublin.

Department of Communications, Climate Action and Environment (2018) Renewable Electricity Support Scheme (RESS) 1. DCCAE, Dublin.

Department of Agriculture, Fisheries and Food (2011). Forest Service Policy on the Granting of Felling Licences for Wind Farm Development.

Department of the Environment, Heritage and Local Government (2019) Draft Wind Energy Development Guidelines for Planning Authorities (Revised). Stationery Office, Dublin.

Department of the Environment, Heritage and Local Government (2006) Wind Energy Development Guidelines for Planning Authorities (Revised). Stationery Office, Dublin.

Devon Hedge Group 2025. Moving hedges, Online, Available at: https://devonhedges.org/wp-content/uploads/2015/11/13_development-1-Moving-hedges.pdf

Eirgrid (2022) Enduring Connection Policy 2.2 Constraints Report for Area 1 Solar and Wind <https://www.eirgridgroup.com/site-files/library/EirGrid/ECP-2-2-Solar-and-Wind-Constraints-Report-Area-I-v1.0.pdf>

Environmental Protection Agency (2021) Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects <https://www.epa.ie/publications/circular-economy/resources/CDWasteGuidelines.pdf>

Environmental Protection Agency Ireland (2009) Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses. EPA, Wexford.

Environmental Protection Agency (2006) Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals)

Environmental Protection Agency Ireland (1999) Wastewater Treatment Manuals - Treatment Systems for Small Communities, Business, Leisure Centres and Hotels. EPA, Wexford.

Forestry Commission (2011): Forests and Water UK Forestry Standard Guidelines, Fifth Edition. Publ. Forestry Commission, Edinburgh

Forest Services (2018). (Draft) Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures.

Forest Service (2000): Forestry and Water Quality Guidelines. Forest Service, DAF, Johnstown Castle Estate, Co. Wexford.

Foulkes, N. 2007. Documenting the successful translocation of a mature hedgerow. Heritage Office, Roscommon Co. Council

Health and Safety Authority (2001) Guidance on the Safe Use of Explosives in Quarries

Inland Fisheries Ireland (2016): Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Watercourses.

Institute of Geologists Ireland (2007) Guide for Drilling Wells for Private Water Supplies. IGI, Dublin.

Irish Statute Book (2017) Forestry Regulations 2017 (S.I. No. 191 of 2017).

Irish Statute Book (2007) Waste Management (Collection Permit) Regulations, 2007 as amended (S.I. No. 820 of 2007).

Irish Statute Book (2000). Planning and Development Acts 2000 to 2019. Stationery Office, Dublin.

Irish Statute Book (1996) Waste Management Act 1996 (S.I. No. 10 of 1996).

McAulay, I., TJP Envision Limited, Department of Trade and Industry, New and Renewable Energy Programme (1999) The Influence of Colour on the Aesthetics of Wind Turbine Generators (ETSU, London).

Office of Public Works. Construction, Replacement or Alteration of Bridges and Culverts - A Guide to Applying for Consent under Section 50 of the Arterial Drainage Act, 1945. Available at: <https://www.gov.ie/en/publication/957aa7-consent-requirements-constructionalteration-of-watercourse-infrastru/>

Safety and Health Commission for the Mining and Other Extractive Industries (2002) Doc. No 1396/2/01 EN Guidance on the Safe Use of Explosives in Quarries https://www.hsa.ie/eng/Publications_and_Forms/Publications/Mines_and_Quarries/Guidance%20on%20the%20Safe%20Use%20of%20Explosives%20in%20Quarries.pdf

Scottish Natural Heritage, 2019 Good Practice During Wind Farm Construction.

Scottish Natural Heritage (2013) Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms Commissioned Report No. 591/ SNH, Stirling.

Scottish Natural Heritage (2010) Good Practice During Wind Farm Construction.

RECEIVED: 09/07/2025

Siltbuster. Concrete Washer. Available at https://www.siltbuster.co.uk/sb_prod/siltbuster-roadside-concrete-washout-rcw/

UK Guidance Note 2020 GPP1 - General Guide to Prevention of Pollution (UK Guidance Note).

UK Guidance Note 2018 GPP5 – Works or Maintenance in or Near Watercourses

Wind Energy Ireland. Wind Stats. Available at <https://www.windenergyireland.com/about-wind/the-basics/facts-stats>

RECEIVED: 09/07/2025

Population and Human Health

American Wind Energy Association and Canadian Wind Energy Association (2009). Wind Turbine Sound and Health Effects - An Expert Panel Review, USA and Canada.

Australian Government National Health and Medical Research Council (NHMRC) Wind Turbines & Health (2010). A Rapid Review of the Evidence. Australia.

Baringa (2019) Wind for a Euro: Cost-benefit analysis of wind energy in Ireland 2000-2020

BiGGAR Economics (2016). Wind Farms and Tourism Trends in Scotland. Midlothian, Scotland.

British Horse Society (2015). Advice on Wind Turbines and Horses – Guidance for Planners and Developers.

Central Statistics Office Ireland (2012). Census of Agriculture 2010 Detailed Results. www.cso.ie

Central Statistics Office Ireland (2018). Census Results 2011 & 2016. www.cso.ie

Centre for Economics and Business Research (2014) The effect of wind farms on house prices. Renewable UK, London.

Chapman and Crichton (2017). Wind turbine syndrome; A communicated disease.

Chapman and Simonetti (2015). Summary of main conclusions reached in 25 reviews of the research literature on wind farms and health.

Climate and Health Alliance (2012). Position Statement on Health and Wind Turbines. Australia.

Climate Exchange (October 2016). Impact of Wind Turbines on House Prices in Scotland.

Danish Wind Industry Association (2003) Shadow Variations from Wind Turbines.

Department of Environment, Climate and Communications (2025). Climate Action Plan 2025.

Department of Environment, Climate and Communications (2022). Climate Action Plan 2023.

Department of Communications, Climate Action and Environment (2021) Climate Action Plan (CAP).

Department of Housing, Planning and Local Government (December 2019). Draft Revised Wind Energy Development Guidelines. DHPLG, Dublin.

Department of Housing, Planning and Local Government (June 2017) Review of the Wind Energy Development Guidelines 2006 – Preferred Draft Approach. DHPLG, 2017.

Department of Housing, Planning and Local Government (December 2013). Proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review

Department of Housing, Planning, Community and Local Government (2017). Key Issues Consultation Paper on the Transposition of the 2014 EIA Directive.

Department of the Environment, Heritage and Local Government (2007). National Climate Change Strategy 2007 – 2012. Stationery Office, Dublin.

Department of the Environment, Heritage and Local Government (2006). Wind Energy Development Guidelines for Planning Authorities (Revised). Stationery Office, Dublin.

RECEIVED 09/07/2025

Discover Ireland www.discoverireland.ie

EirGrid (2017). EMF & You: Information about Electric & Magnetic Fields and the electricity transmission system in Ireland.

Environmental Protection Agency (2022). Guidelines on the Information to be Contained in Environmental Impact Statements. EPA, Wexford.

Environmental Protection Agency (July 2022) Ireland's Provisional Greenhouse Gas Emissions 1990-2022. www.epa.ie

Environmental Protection Agency (April 2021) Ireland's Final Greenhouse Gas Emissions. www.epa.ie

Environmental Protection Agency (2013) Environmental Protection Agency Licensing Act 1992 as amended.

Eric J. Brunner, Ben Hoen, Joe Rand, David Schwegman, Commercial wind turbines and residential home values: New evidence from the universe of land-based wind projects in the United States, Energy Policy, Volume 185, 2024, 113837, ISSN 0301-4215, <https://doi.org/10.1016/j.enpol.2023.113837>.

ESB (2017) EMF & You: Information about Electric & Magnetic Fields and the electricity transmission system in Ireland (https://esb.ie/docs/default-source/default-document-library/emf-public-information_booklet_v9.pdf?sfvrsn=0)

Fáilte Ireland (March 2021) Key Tourism Facts 2019. www.failteireland.ie

Fáilte Ireland (March 2021). Regional tourism performance in 2019.

Fáilte Ireland (August 2018) 2017 Topline Tourism Performance By Region. www.failteireland.ie

Fáilte Ireland (2013) Ireland's Ancient East Path to Growth. https://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/2_Develop_Your_Business/Key%20Projects/Ireland's%20Ancient%20East/Failte_Ireland_Ireland's_Ancient_East_Path_to_Growth_Strategy.pdf

Fáilte Ireland (2012). Visitor Attitudes on the Environment: Wind Farms – Update on 2007 Research.

Fáilte Ireland (2008). Visitor Attitudes on the Environment: Wind Farms.

Fáilte Ireland (September 2019). Tourism Facts 2018. Fáilte Ireland. Available at: www.failteireland.ie

Finnish Government's Analysis, Assessment and Research Activities (VN TEAS) (2020). Infrasound Does Not Explain Symptoms Related to Wind Turbines.

Health & Safety Authority (2006) Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) Regulations.

Heblich, Dr. S. et al (2016) Impact of wind Turbines on House Prices in Scotland. Climate Xchange

Helimax Energy (2008). Shadow Flicker Analysis. Stantec, Ontario.

HSE Public Health Medicine Environment and Health Group (2017) Position Paper on Wind Turbines and Public Health. Ireland.

the International Commission on Non-Ionizing Radiation Protection (ICNIRP) (2020). RF EMF Guidelines 2020.

RECEIVED: 09/07/2025

Irish Statute Book (2013) Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. 291 of 2013), as amended.

Irish Statute Book (2007) Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007), as amended.

Irish Statute Book (2006) Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006).

Irish Statute Book (2005) Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005), as amended.

Irish Wind Energy Association (2009). Jobs and Investment in Irish Wind Energy – Powering Ireland's Economy. Deloitte, Ireland.

Irish Wind Energy Association (2014). "An Enterprising Wind" An economic analysis of the job creation potential of the wind sector in Ireland, Siemens Limited, Dublin.

Irish Wind Energy Association (January 2020) Interactions Opinion Poll on Wind Energy. Ireland

Irish Wind Energy Association (2012). Best Practice Guidelines for the Irish Wind Energy Industry.

Lawrence Berkley National Laboratory (2013) A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States.

Lawrence Berkley National Laboratory (2009). The Impact of Wind Power Projects on Residential Property Values in the United States: A multi-Site Hedonic Analysis. US Department of Energy

Le Blanc et al. (1991). Behavioral and Physiological Responses of Horses to Simulated Aircraft Noise.

Marshall Day Acoustics (2014). Summary of research of noise effects on Animals.

Massachusetts Departments of Environmental Protection and Public Health (2012). Wind Turbine Health Impact Study -Report of Independent Expert Panel. USA.

Massachusetts Institute of Technology (2014) Wind Turbines and Health, A Critical Review of the Scientific Literature, Journal of Occupational and Environmental Medicine Vol. 56 (11).

Met Éireann (2013). 30 Year Averages. <https://www.met.ie/climate/30-year-averages>

Noble Environmental Power LLC (2006). Wind Fact Sheet #4: Shadow Flicker. Noble Environmental Power, Connecticut.

ODPM Annual Report and Accounts 2004: Housing, Planning, Local Government and the Regions Committee; Planning Policy Statement 22

Pöyry (2014) The Value of Wind Energy to Ireland A report to Irish Wind Energy Association. Cambridge Economics.

Renewable UK (2010). Wind Turbine Syndrome - An independent review of the state of knowledge about the alleged health condition. London, UK.

Siemens (2014) "An Enterprising Wind" An economic analysis of the job creation potential of the wind sector in Ireland

RECEIVED: 09/07/2025

Sustainable Energy Authority of Ireland (October 2017). 'Attitudes Towards the Development of Wind Farms in Ireland'. SEAI, Dublin.

Sustainable Energy Authority of Ireland (2011), Wind Energy Roadmap 2011 to 2050. www.seai.ie

Sustainable Energy Authority of Ireland (2003). Attitudes Towards the Development of Wind Farms in Ireland. SEAI, Dublin.

UK Department of Energy and Climate Change (2010). Update of Shadow Flicker Evidence Base. DECC,

Warren, C.R. et al., (2005). Green on Green: Public Perceptions of Wind Power in Scotland and Ireland. Journal of Environmental Planning and Management 48(6): 853-875.

Wind Energy Ireland & KPMG (April 2021) Economic impact of onshore wind in Ireland. www.windenergyireland.com

Wind Energy Ireland & MaREI (March 2021) Our Climate Neutral Future Zero by 50. www.windenergyireland.com

Wind Energy Ireland (January 2021) Public Attitudes Monitor. www.windenergyireland.com

WindEurope (February 2022). Wind Energy in Europe: 2021 Statistics and the Outlook for 2022-2026.

WindEurope (September 2017). Wind energy in Europe: Scenarios for 2030.

World Health Organisation (2018). Environmental Noise Guidelines for the European Region: World Health Organisation Regional Office for Europe, 2018.

RECEIVED: 09/07/2025

RECEIVED 09/07/2025

Biodiversity

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.

Commission of the European Communities (2013) Interpretation manual of European Union habitats. Eur 28. European Commission DG Environment.

Curtis and McGough (1988) The Irish Red Data Book 1 Vascular Plants. Wildlife Service Ireland. Dublin

Denyer, J., Eakin, M., & Gill, M. (2023). Guidelines for the Assessment of Annex I Priority Petrifying Springs in Ireland. Irish Wildlife Manuals, No. 142. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Department of Agriculture, Environment, and Rural Affairs (2022). Hedgerow establishment and restoration

Department of Housing, Local Government and Heritage (2024). Ireland's 4th National Biodiversity Action Plan 2023-2030.

Devon Hedge Group 2025. Moving hedges, Online, Available at: https://devonhedges.org/wp-content/uploads/2015/11/13_development-1-Moving-hedges.pdf

EPA (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. Environmental Protection Agency

European Communities (Natural Habitats) Regulations, SI 94/1997, SI 233/1998 & SI 378/2005 – <http://www.irishstatutebook.ie>.

Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Dublin: The Heritage Council.

Foulkes, N. and Murray, A. (2005) County Laois Hedgerow Survey Report. Laois County Council.

Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin. Unpublished Report [pdf].

Habitats Directive (92/43/EEC).

Hedgerows Ireland (2024). Guidance Note: Hedgerow Translocation Online, Available at <https://hedgerows.ie/translocation/>.

Heritage Council, Conserving Hedgerows, Online, Available at https://www.heritagecouncil.ie/content/files/conserving_hedgerows_2mb.pdf

ILP (2023). Institute of Lighting Professionals Guidance Note 08/23 Bats and Artificial Lighting at Night

Lydon, K, Smith, G. (2018) National Land Cover Map of Ireland 2018. Tailte Éireann - Surveying (Ordnance Survey Ireland)

Marnell, F., Kingston, N. & Looney, D. (2009) Ireland Red List No. 3: Terrestrial Mammals, National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Martin, J.R., O'Neill, F.H. & Daly, O.H. (2018), The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats. Irish Wildlife Manuals, No. 102. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

McAney, K & Hanniffy, R. 2015. The Vincent Wildlife Trust Irish Bat Box Schemes. The Vincent Wildlife Trust. Online, Available at: vwt.org.uk/wp-content/uploads/2015/08/VWTIrelandBatBoxReport.pdf

Murray, A. and Foulkes, N. (2006) A Methodology for the recording of hedgerow extent, species composition, structure and condition in Ireland. Tearnmann.

National Biodiversity Data Centre. How to create solitary bee nest sites on your farm Protecting Farmland Pollinators Action Sheet 1. Available online at: https://biodiversityireland.ie/app/uploads/2022/05/ActionSheet_Solitary-Bees-WEB-2.pdf

Natural England (2014). Bats and Onshore Wind Turbines: Interim Guidance. Third Edition TIN051. English Nature.

NatureScot (2021). Bats and onshore wind turbines: survey, assessment and mitigation. August 2021

NIEA, Natural Environment Division (2021). Guidance on Bat Surveys, Assessment & Mitigation for Onshore Wind Turbine Developments.

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill

NRA (2006a). Guidelines for the treatment of badgers prior to the construction of National Road Schemes.

NRA (2006b) Best practice guidelines for the conservation of bats in the planning of national road schemes. National Roads Authority, Dublin, Ireland.

NRA (2009a). Guidelines for Assessment of Ecological Impacts of National Road Schemes. Rev 2, June 2009.

NRA (2009b). Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes.

O'Neill, F.H., Martin, J.R., Devaney, F.M. & Perrin, P.M. (2013), The Irish semi-natural grasslands survey 2007-2012. Irish Wildlife Manuals, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.

Perrin et al., (2018). Irish Vegetation Classification (IVC) – An Overview of Concepts, Structure and Tools. In Practice, CIEEM. December 2018, pp 15-19.

Perrin et al. (2019). Irish Vegetation Classification ERICA – Engine for Relevés to Irish Communities Assignment V5.0 User's Manual

Preston, C.D., Pearman, D.A and Dines T.D. (2002) New Atlas of the British & Irish Flora

Pollinator-friendly management of Wind Farms. All-Ireland Pollinator Plan, Guidelines 12. National Biodiversity Data Centre. Available at: <https://pollinators.ie/wp-content/uploads/2022/12/Wind-Farm-Pollinator-Guidelines-2022-WEB.pdf>.

SNH (2013) Research and guidance on restoration and decommissioning of onshore wind farms. Scottish Natural Heritage Commissioned Report No. 591.

Smith, G. F., O'Donoghue, P., O'Hara, K., & Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping.

Stace, C. (2010). New Flora of the British Isles (3rd Edition). Cambridge: Cambridge University Press.

Wiser, S.K. and De Cáceres, M. (2013). Updating vegetation classifications: an example with New Zealand's woody vegetation. Journal of Vegetation Science, 24: 80-93.

RECEIVED: 09/07/2025

Birds

Alerstam, T., Rosen M., Backman J., G P., Ericson P. and Hellgren O. (2007). Flight Speeds among Bird Species: Allometric and Phylogenetic Effects. *PLoS Biology*, 5: 1656-1662.

Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. and Fuller, R.J. (2013). *Bird Atlas 2007–11: The Breeding and Wintering Birds of Britain and Ireland*. Thetford, UK: BTO Books.

Band, W., Madders, M. and Whitfield, D. P. (2007). Developing field and analytical methods to assess avian collision risk at wind farms. Scottish Natural Heritage, Inverness, Scotland. Available at: [https://www.natural-research.org/application/files/4114/9182/2839/Band et al 2007.pdf](https://www.natural-research.org/application/files/4114/9182/2839/Band_et_al_2007.pdf)

Bibby, C.J., Burgess, N.D., Hillis, D.M., Hill, D.A. and Mustoe S. (2000). *Bird Survey Techniques*. Massachusetts, United States: Academic Press.

BirdWatch Ireland (2021) I-WEBS Counter Manual. BirdWatch Ireland, Kilcoole, Ireland. Available at: <https://birdwatchireland.ie/publications/i-webs-counter-manual/>

British Trust for Ornithology (2021). Breeding Bird Survey. British Trust for Ornithology, Thetford, UK. Available at: <https://www.bto.org/our-science/projects/bbs>

British Trust for Ornithology (2021) BirdFacts. Available at <https://www.bto.org/about-birds/birdfacts>

Burke, B., Lewis, L., Fitzgerald, N., Frost, T., Austin, G. and Tierney, T. D. (2018) Estimates of waterbird numbers winter in Ireland, 2011/12-2015/16. *Irish Birds*, 11: 1-12.

Burke, B., McElwaine, J.G., Fitzgerald, N., Kelly, S.B.A., McCulloch, N., Walsh, A.J. and Lewis, L.J. (2021) Population size, breeding success and habitat use of Whooper Swan *Cygnus cygnus* and Bewick's Swan *Cygnus columbianus bewickii* in Ireland: results of the 2020 International Swan Census. *Irish Birds*, 43: 57 – 70.

CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland. Chartered Institute of Ecology and Environmental Management, Romsey, UK. Available at: <https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/>

Chamberlain, D.E., Rehfisch, M.R., Fox, A.D., Desholm, M. and Anthony, S.J. (2006). The effect of avoidance rates on bird mortality predictions made by wind turbine collision risk models. *Ibis*, 148: 198–202.

Council Directive 92/43/EEC 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043>

Council Directive 2009/147/EC 30 November 2009 on the conservation of wild birds. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147>

Council Directive 2014/52/EU 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0052&rid=1>

Cummins, S., Fisher, J., McKeever, R.G., McNaghten, L. and Crowe, O. (2010) Assessment of the distribution and abundance of Kingfisher *Alcedo atthis* and other riparian birds on six SAC river systems in Ireland. BirdWatch Ireland, Kilcoole, Ireland. Available at: [https://www.npws.ie/sites/default/files/publications/pdf/Cummins et al 2010 Kingfisher survey.pdf](https://www.npws.ie/sites/default/files/publications/pdf/Cummins_et_al_2010_Kingfisher_survey.pdf)

DoHPLG (2018). Guidelines for planning authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. Department of Housing, Planning and Local Government, Government of Ireland, Dublin. Available at: <https://www.gov.ie/en/publication/53aee9-guidelines-for-planning-authorities-and-an-bord-pleanala-on-carrying/>

RECEIVED: 09/07/2025

- Drewitt, A. L. and Langston, R. H. W. (2006) Assessing the impacts of wind farms on birds. *Ibis*, 148: 29-42.
<https://doi.org/10.1111/j.1474-919X.2006.00516.x>
- Drewitt, A. L. and Langston, R. H. W. (2008) Collision effects of wind-power generators and other obstacles on birds. *Annals of the New York Academy of Sciences*, 1134(1): 233-266. <https://doi.org/10.1196/annals.1439.015>
- Duffy, K. and Steward, M. (2008). *Turbine Search Methods and Carcass Removal Trials at the Braes of Doune Windfarm*. Natural Research Information Note 4. Natural Research Ltd, Banchory, UK.
- Edkins, M.T. (2014). *Impacts of wind energy developments on birds and bats: looking into the problem*. Report to FPL Energy, Florida, USA. <https://tethys.pnnl.gov/sites/default/files/publications/Edkins-2014.pdf>
- EPA (2022). Guidelines on the information to be contained in Environmental Impact Statement reports. Environmental Protection Agency, Johnstown Castle Estate, Wexford. Available at: https://www.epa.ie/publications/monitoring-assessment/assessment/EIAR_Guidelines_2022_Web.pdf
- European Commission (2002). Assessment of plans and projects significantly affecting Natura 2000 sites. Publications Office of the European Union, Luxembourg.
https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf
- European Commission (2020). Guidance document on wind energy developments and EU nature legislation. Publications Office of the European Union, Luxembourg.
https://ec.europa.eu/environment/nature/natura2000/management/docs/wind_farms_en.pdf
- European Union (2022) Article 12 web tool. Available at: <https://nature-art12.eionet.europa.eu/article12/>
- European Communities (Noise Emission by Equipment For Use Outdoors) Regulations, 2001*, No. 632/2001. Dublin: Stationary Office. Available at: <https://www.irishstatutebook.ie/eli/2001/si/632/made/en/print>
- Forestry Commission Scotland (2006). Forest operations and birds in Scottish forests - the law and good practice. FCS Guidance Note 32, Forestry Commission Scotland, Inverness, Scotland.
- Gibbons, D.W., Reid, J.B. and Chapman, R.A. (1993). *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*. T & A.D. Poyser, London, UK.
- Gilbert, G., Gibbons, D.W. and Evans, J. (1998) *Bird monitoring methods*. Bedfordshire, England: Pelagic Publishing, Royal Society for the protection of Birds.
- Gilbert, G., Stanbury, A. and Lewis, A. (2021). Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds*, 43:1-22. Available at: <https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/>
- Gillings, S., & Fuller, R. J. (1999). Winter ecology of golden plovers and lapwings: A review and consideration of extensive survey methods. Thetford, UK: British Trust for Ornithology. Available at: https://www.bto.org/sites/default/files/shared_documents/publications/research-reports/1999/tr224.pdf
- Goodship, N.M. and Furness, R.W. (2022) Disturbance distances review: an updated literature review of disturbance distances of selected bird species. Research Report 1283, NatureScot, Inverness, Scotland.
- Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013). *Raptors: a field guide to survey and monitoring*. The Stationery Office, Edinburgh.
- Hötter, H., Thomsen, K. M. and Jeromin, H. (2006) Impacts on biodiversity of exploitation of renewable energy sources: the example of birds and bats—facts, gaps in knowledge, demands for further research, and ornithological guidelines for the development of renewable energy exploitation. Report by Nature and Biodiversity Conservation Union (NABU). Available at: https://tethys.pnnl.gov/sites/default/files/publications/Hotker_et_al_Renewable_Energy_on_Biodiversity.pdf

International Convention on Wetlands of International Importance, 1975. United Nations Treaty Series 996, entered into force 21 December 1975. Available at: <https://treaties.un.org/doc/Publication/UNTS/Volume%20996/volume-996-I-14583-English.pdf>

Kilkenny County Council (2021) Kilkenny City and County Development Plan 2021. Kilkenny County Council, County Hall, Kilkenny, Ireland. Available at: <https://kilkennycoco.ie/eng/services/planning/development-plans/city-and-county-development-plan/adopted-city-and-county-development-plan.html>

Lack, P.C. (1986). *The atlas of wintering birds in Britain and Ireland*. London: T & AD Poyser.

Laois County Council (2021) Laois County Development Plan 2021-2027. Laois County Council, Áras an Chontae, Portlaoise, Co. Laois, Ireland. Available at: <https://consult.laois.ie/en/consultation/laois-county-development-plan-2021-2027>

Lewis, L., Coombes, D., Burke, B., O'Halloran, J., Walsh, A., Tierney, T. D., & Cummins, S. (2019). Countryside bird survey: status and trends of common and widespread breeding birds 1998–2016. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland, Dublin, Ireland. Available at: <https://www.npws.ie/sites/default/files/publications/pdf/TWM115.pdf>

Madders, M. and Whitfield, D.P. (2006) Upland raptors and the assessment of windfarm impacts. *Ibis*, 148(s1):43-56. <https://doi.org/10.1111/j.1474-919X.2006.00506.x>

Marquiss, M. and Newton, I. (1982) A Radio-Tracking Study of the Ranging Behaviour and Dispersion of European Sparrowhawks *Accipiter nisus*. *Journal of Animal Ecology*, 51(1):111-133. <https://doi.org/10.2307/4314>

McGuinness, D., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. and Crowe, O. (2015). Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland. Birdwatch Ireland, Wicklow, Ireland. Available at: https://birdwatchireland.ie/app/uploads/2019/09/BWI-Bird-Wind-Energy-devt-Sensitivity-Mapping-Guidance_document.pdf

Meredith, C., Venosta, M. and Ransom, R. (2002). *Cordington Wind Farm Avian Avoidance Behaviour Report 2002*. Biosis Research Project.

NatureScot (2024). Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms. NatureScot, Inverness, Scotland. Available at: <https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms>

NPWS (2023) Ireland's 4th National Biodiversity Action Plan 2023-2030. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland. Available at: https://www.npws.ie/sites/default/files/files/4th_National_Biodiversity_Action_Plan.pdf

NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority, Ireland. <https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf>

O'Brien, M.O. and Smith, K.W. (1992). Changes in the status of waders breeding on wet lowland grasslands in England and Wales between 1982 and 1989. *Bird Study*, 39(3): 165-176.

Orta, J., Boesman, P.F.D. and Marks, J.S. (2020). "Eurasian Kestrel (*Falco tinnunculus*)". In: Billerman, S.M., Keeney, B.K., Rodewald, P.G. and Schulenberg, T.S. (eds). *Birds of the World*. Ithaca, NY, USA: Cornell Lab of Ornithology.

Pearce-Higgins, J.W., Stephen, L., Langston, R.H.W., Bainbridge, I.P. and Bullman, R. (2009) The distribution of breeding birds around upland wind farms. *Journal of Applied Ecology*, 46(6): 1323-1331. <https://doi.org/10.1111/j.1365-2664.2009.01715.x>

RECEIVED 09/07/2025

Pearce-Higgins, J.W., Stephen, L., Douse, A. and Langston, R.H.W. (2012). Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi-site and multi-species analysis. *Journal of Applied Ecology*, 49: 386–394. <https://doi.org/10.1111/j.1365-2664.2012.02110.x>

Percival, S.M. (2003). Birds and wind farms in Ireland: a review of potential issues and impact assessment. Ecology Consulting, Durham, UK. Available at: https://tethys.pnnl.gov/sites/default/files/publications/Percival_2003.pdf

Planning and Development Act 2000. No. 30/2000, Dublin: Stationary Office. Available at: <https://www.irishstatutebook.ie/eli/2000/act/30/enacted/en/html>

Rees, E. C., Bruce, J. H. and White, G. T. (2005) Factors affecting the behavioural responses of whooper swans (*Cygnus c. cygnus*) to various human activities. *Biological Conservation* 121(3): 369 – 382. Available at: <https://doi.org/10.1016/j.biocon.2004.05.009>

Ruddock, M. and Whitfield, D.P. (2007). A review of disturbance distances in selected bird species. Natural Research (Projects) Ltd report to Scottish Natural Heritage. Available at: <https://www.nature.scot/sites/default/files/2018-05/A%20Review%20of%20Disturbance%20Distances%20in%20Selected%20Bird%20Species%20-%20Natural%20Research%20Ltd%20-%202007.pdf>

Sharrock, J.T.R. (1976). *The Atlas of Breeding Birds in Britain and Ireland*. London: T. & A. D. Poyser.

SNH (2000). Wind farms and birds: calculating a theoretical collision risk assuming no avoidance action. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2017-09/Guidance%20Note%20-%20Windfarms%20and%20birds%20-%20Calculating%20a%20theoretical%20collision%20risk%20assuming%20no%20avoiding%20action.pdf>

SNH (2009). Monitoring the impact of onshore wind farms on birds. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2017-09/Guidance%20Note%20-%20Monitoring%20the%20impact%20of%20onshore%20windfarms%20on%20birds.pdf>

SNH (2016). Assessing connectivity with Special Protection Areas (SPAs). Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2018-08/Assessing%20connectivity%20with%20special%20protection%20areas.pdf>

SNH (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2018-06/Guidance%20Note%20-%20Recommended%20bird%20survey%20methods%20to%20inform%20impact%20assessment%20of%20onshore%20windfarms.pdf>

SNH (2018a). Avoidance rates for the onshore SNH wind farm collision risk model. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2018-09/Wind%20farm%20impacts%20on%20birds%20-%20Use%20of%20Avoidance%20Rates%20in%20the%20SNH%20Wind%20Farm%20Collision%20Risk%20Model.pdf>

SNH (2018b). Assessing the cumulative impacts of onshore wind farms on birds. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/sites/default/files/2018-08/Guidance%20-%20Assessing%20the%20cumulative%20impacts%20of%20onshore%20wind%20farms%20on%20birds.pdf>

SNH (2018c). Assessing significance of impacts from onshore wind farms outwith designated areas. Scottish Natural Heritage, Inverness, Scotland. Available at: <https://www.nature.scot/doc/guidance-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected>

RECEIVED 09/07/2025

Village, A. (1990). *The Kestrel*. London: T. & A. D. Poyser.

Walls, S.S. and Kenward, R.E. (2001). Spatial consequences of relatedness and age in buzzards. *Animal Behaviour*, 61(6):1069-1078. <https://doi.org/10.1006/anbe.2001.1696>.

Wildlife Act 1976, No. 39/1976, Dublin: Stationary Office. Available at:
<http://www.irishstatutebook.ie/eli/1976/act/39/enacted/en/html?q=wildlife+act>

RECEIVED: 09/07/2025

Land, Soils and Geology

British Standards Institution (BSI). (2015) BS5930 - Code of Practice for Site Investigations.

Department of Housing, Planning and local Government, 2018: Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

Environmental Protection Agency (2022): Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

Environmental Protection Agency (2003): Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements).

European Union, 2017: Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU).

Geological Survey of Ireland (GSI). (2005) Geology of Tipperary , 1:100,000 scale Bedrock Geology Series, Sheet 18.

Institute of Geologists Ireland (2013): Guidelines for Preparation of Soils, Geology & Hydrogeology Chapters in Environmental Impact Statements.

Ground Investigation Ireland Ltd (2024): Seskin Renewables Wind Farm Factual Ground Investigation Report

CEMP (2025): Included as Appendix 4-2 of this EIAR.

National Roads Authority (2008): Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.

Scottish Natural Heritage report (SNH) Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms (SNH, 2013).

Meehan, R., Gallagher, V., Hennessy, R., Parkes and Gatley, S. (2016): The Geological Heritage of Offaly; An audit on County Geological Sites in County Offaly.

Meehan, R., Gallagher, V., Hennessy, R., Parkes and Gatley, S. (2012): The Geological Heritage of Kilkenny; An audit on County Geological Sites in County Kilkenny

RECEIVED: 09/07/2025

Hydrology and Hydrogeology

CIRIA (2006): Guidance on 'Control of Water Pollution from Linear Construction Projects' (CIRIA Report No. C648, 2006).

CIRIA (2006): Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors. CIRIA C532. London, 2006.

DoHLG (2006): Wind Farm Development Guidelines for Planning Authorities.

EPA (2022): Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

EPA (2010): Establishment of Groundwater Source Protection Zones: Glanbia (Ballyragget) Water Supply Scheme – Ballyconra Boreholes

EPA (2010): Establishment of Groundwater Source Protection Zones: Cullahill Group Water Supply Scheme – Toberoe Spring

GSI (2004): Durrow Groundwater Body Description.

GSI (2004): Lisdowney Groundwater Body Description.

GSI (2000): Fermoy Public Water Supply - Groundwater Source Protection Zone Report.

GSI (2000): Durrow (Convent) Water Supply Scheme - Groundwater Source Protection Zone Report.

IFI (2016): Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters, Inland Fisheries Ireland (2016).

IGI, (2013): Guidelines for Preparation of Soils, Geology & Hydrogeology Chapters in Environmental Impact Statements, (Institute of Geologists Ireland, 2013).

NRA (2008): Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes, (National Roads Authority, NRA, 2008).

PPG1 - General Guide to Prevention of Pollution (UK Guidance Note).

PPG5 – Works or Maintenance in or Near Watercourses (UK Guidance Note).

SNH (2010): Scottish Natural Heritage report (SNH): Good Practice During Wind Farm Construction.

SNH (2013): Scottish Natural Heritage report (SNH): Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms

RECEIVED: 09/07/2025

Air Quality

Clean Air Strategy For Ireland First Progress Report 2024

Council of the European Union (2008) Council Directive 2008/50/EC on ambient air quality and cleaner air for Europe. Official Journal of the European Union No. L152.

Council of the European Union (2004) Council Directive (2004/107/EC) relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. Official Journal of the European Union No. L23/3.

Council of the European Union (2002) Council Directive (2002/3/EC) relating to ozone in ambient air. Official Journal of the European Union No. L67/14.

Council of the European Union (2000) Council Directive 2000/69/EC relating to limit values for benzene and carbon monoxide in ambient air. Official Journal of the European Union No. L313.

Council of the European Union (1999) Council Directive 1999/30/EC relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air. Official Journal of the European Union No. L163/41

Department of Environment, Climate and Communications (2025) Climate Action Plan 2025.

Department of Environment, Climate and Communications (2023) Climate Action Plan 2024.

Department of Environment, Climate and Communications (2022). Climate Action Plan 2023.

Department of the Environment, Heritage and Local Government (2004) Quarries and Ancillary Activities, Guidelines for Planning Authorities. Stationery Office, Dublin.

Environmental Protection Agency (2023) Air Quality Standards <https://airquality.ie/information/air-quality-standards>

Environmental Protection Agency (EPA). (2025). Ireland's Air Pollutant Emissions 1990–2030. <<https://www.epa.ie/publications/monitoring-assessment/climate-change/air-emissions/EPA-Air-Pollutant-Final-Report.pdf>

Environmental Protection Agency (2024). Irelands State of the Environment Report 2024) <<https://www.epa.ie/our-services/monitoring-assessment/assessment/irelands-environment/state-of-environment-report/>

Environmental Protection Agency (2024) Air Quality in Ireland 2023. EPA, Ireland Available at: <https://www.epa.ie/publications/monitoring-assessment/air/air-quality-in-ireland-2023.php#:~:text=Summary%3A%20Air%20quality%20in%20Ireland,based%20WHO%20guidelines%20in%202023>

Environmental Protection Agency (2023) Air Quality in Ireland 2022. EPA, Ireland. <<https://www.eea.europa.eu/publications/air-quality-in-europe-2022>>

Environmental Protection Agency (2022): Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

Environmental Protection Agency (2021). Best Practice Guidelines on the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects.

Environmental Protection Agency (2020) Greenhouse Gas Emissions 1990 – 2020 (provisional figures)

RECEIVED: 09/05/2025

Environmental Protection Agency (2018). Ireland's Greenhouse Gas Emissions Projections 2017 – 2035. EPA, Wexford.

Europe's air quality status 2024 briefing. <https://www.eea.europa.eu/publications/europes-air-quality-status-2024>

European Environment Agency (EEA). (2025). Air Quality Status Report 2025. <https://www.eea.europa.eu/en/analysis/publications/air-quality-status-report-2025>

European Environment Agency (EEA). (2024). Ireland – Air Pollution Country Fact Sheet 2024. <https://www.eea.europa.eu/en/topics/in-depth/air-pollution/air-pollution-country-fact-sheets-2024/ireland-air-pollution-country-fact-sheet-2024>

European Commission (2022) COP27 Climate Change Conference. Available at: <https://cop27.eg/#/>

European Commission (2021) COP26 Climate Change Conference. Available at: <https://ukcop26.org/>

European Commission (2019) COP25 Climate Change Conference. Available at: https://ec.europa.eu/clima/events/cop25-climate-change-conference_en

European Commission (2017). Guidance on the Preparation of the Environmental Impact Assessment Report.

European Union (1996). Directive 1996/62/EC. European Parliament and European Council.

European Environment Agency (2022) Air Quality in Europe - 2022 Report. EEA.

Government of Ireland (2011) Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) as amended by the Air Quality Standards (Amendments).

Government of Ireland (2016) Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations, 2016 (S.I. 659 2016).

Government of Ireland (2004) Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004).

Government of Ireland (2002) Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002).

Government of Ireland (1999) Ambient Air Quality Assessment and Management Regulations 1999 (S.I. No. 33 of 1999).

Government of Ireland (1999) Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999.

Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf.

Intergovernmental Panel on Climate Change (IPCC) (2021) Sixth Assessment Report - Climate Change 2021: The Physical Science Basis. www.ipcc.ch

Met Éireann www.met.ie

Office of Energy Efficiency and Renewable Energy (2023) How Wind Can Help Us Breathe Easier

Rialtas na Eireann (2023) Clean Air Strategy for Ireland <https://www.gov.ie/en/publication/927e0-clean-air-strategy/#:~:text=The%20Clean%20Air%20Strategy%20provides,delivering%20on%20wider%20national%20objective> s.

Transport Infrastructure Ireland (2022) Air Quality Assessment of Proposed National Roads – Standard PE-ENV-01107.

Transport Infrastructure Ireland (2011) Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes.

Transport Infrastructure Ireland (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes

UK Department of Environment Food and Rural Affairs (DEFRA) (2016) Part IV of the Environment Act 1995: Local Air Quality Management Technical Guidance (TG16)

UK Highways Agency (UKHA) (2019) Design Manual for Roads and Bridges (DMRB) – LA 105 Air Quality

World Health Organization (WHO) (2005) Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulfur Dioxide Global Update 2005

RECEIVED: 09/07/2025

Climate

Clare Noone, Deirdre McClean, Danielle Gallagher, Jennifer McElwain and Peter Thorne, 2023, IRELAND'S CLIMATE CHANGE ASSESSMENT Volume 1: Climate Science – Ireland in a Changing World, Environmental Protection Agency, Ireland, 228 pp,

Climate Change Advisory Council Annual Review 2023
<<https://www.climatecouncil.ie/councilpublications/annualreviewandreport/CCAC-AR-2023-FINAL%20Compressed%20web.pdf>>

Climate Change Performance Index (CCPI) (2023) Climate Change Performance Index 2024.
<https://ccpi.org/download/climate-change-performance-index-2024/>

Climate Change Performance Index (CCPI) (2022) 2023 Results: Climate Mitigation Efforts of 57 Countries plus the EU. Covering 90% of the Global Greenhouse Gas Emissions. www.ccpi.org

Connor McGookin, Abhay Menon, Shane McDonagh, Brian Ó Gallachóir and Paul Deane, 2023, IRELAND'S CLIMATE CHANGE ASSESSMENT Volume 2: Achieving Climate Neutrality by 2050, Environmental Protection Agency, Ireland, 226 pp,

Conor Murphy, Liam Heaphy, Tara Quinn, Enda O'Brien and Paul Nolan, 2023, IRELAND'S CLIMATE CHANGE ASSESSMENT Volume 3: Being Prepared for Ireland's Future Climate, Environmental Protection Agency, Ireland, 276 pp,

Department of Communications, Climate Action and Environment (2021). Climate Action and Low Carbon Development (Amendment) Act 2021.

Department of Communications, Climate Action and Environment (2021) Climate Action Plan (CAP).

Department of Communications, Climate Action and Environment (2018). Sustainable Development Goals National Implementation Plan 2018-2020.

Department of Communications, Climate Action and Environment (2015). Climate Action and Low Carbon Development Act 2015.

Department of Environment, Climate and Communications (2023) Climate Action Plan 2024.

Department of Environment, Climate and Communications (2022). Climate Action Plan 2023.

Department of Environment, Climate and Communications (May 2022). Draft of the Second National Implementation Plan for the SDG Goals 2022-2024.

Department of the Environment, Heritage and Local Government (2007) National Climate Change Strategy 2007 – 2012. Stationery Office, Dublin.

Department of the Environment, Heritage and Local Government (2006). Wind Energy Development Guidelines for Planning Authorities (Revised). Stationery Office, Dublin.

Department of Climate Change, Action & Environment. Renewable Energy Action Plan (NREA) Submitted under Article 4 of Directive 2009/28/EC.

Department of Climate Change, Action & Environment National Energy Efficiency Action Plan (NEEAP).

Department of the Taoiseach (2020). Programme for Government: Our Shared Future.

Doddy Clarke, E, Sweeney, C, McDermott, F, et al. Climate change impacts on wind energy generation in Ireland. Wind Energy. 2021; 1- 13. DOI: 10.1002/we.2673

RECEIVED: 09/07/2025

EirGrid, Enduring Connection Policy 2.3 Constraints Report for Area H2 Solar and Wind (December 2022). Available at: <<https://cms.eirgrid.ie/sites/default/files/publications/ECP-2.3-Solar-and-Wind-Constraints-Report-Results-for-Area-H2-v1.0.pdf>>

Environmental Protection Agency (2022) Ireland's Greenhouse Gas Emissions Projections 2022-2040.

Environmental Protection Agency (2023) Ireland's National Inventory Report 2023 - Greenhouse Gas Emissions 1990-2021

Environmental Protection Agency (May 2025) Ireland's Greenhouse Gas Emissions Projections 2024-2055. EPA, Ireland.

European Commission (2023) COP28 Climate Change Conference. Available at: <https://www.cop28.com/en/>

European Commission (2022) COP27 Climate Change Conference. Available at: <https://cop27.eg/#/>

European Commission (2019) COP25 Climate Change Conference. Available at: https://ec.europa.eu/clima/events/cop25-climate-change-conference_en

European Commission (2019) European Green Deal – European Climate Law, 2021.

European Commission (2015). COP21 Paris Agreement. Available at: https://ec.europa.eu/clima/policies/international/negotiations/paris_en

European Commission, Directorate-General for Environment, Guidance on integrating climate change and biodiversity into environmental impact assessment –, Publications Office, 2013, <https://data.europa.eu/doi/10.2779/11735>

European Commission (2010) Europe 2020 Strategy A European strategy for smart, sustainable and inclusive growth. Brussels.

European Union (2014). Directive 2014/52/EU of 16 April 2014 on the assessment of the effects of certain public and private projects on the environment.

European Union (2014) 2030 Climate and Energy Policy Framework

IPCC, 2010. Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties, <https://www.ipcc.ch/site/assets/uploads/2017/08/AR5_Uncertainty_Guidance_Note.pdf – Accessed April 2021>

Kilkenny County Council (2021), Kilkenny City and County Draft Development Plan 2021-2027

Kilkenny County Council (2023) Draft Kilkenny County Council Climate Action Plan 2024-2029

Laois County Council (2021), Laois County Draft Development Plan 2021-2027

Laois County Council (2024) Laois County Council Climate Action Plan 2024-2029

Met Éireann www.met.ie

Nolan, P., and J. Flanagan, 2020: High-Resolution Climate Projections for Ireland – a Multi-model Ensemble Approach. Environmental Protection Agency. <https://www.epa.ie/publications/research/climate-change/Research_Report_339_Part1.pdf>

Peter Thorne, Jean Boucher, Brian Caulfield, Hannah Daly, Paul Deane, Danielle Gallagher, Liam Heaphy, Deirdre McClean, Shane McDonagh, Jennifer McElwain, Connor McGookin, Abhay Menon, Róisín Moriarty,

Conor Murphy, Paul Nolan, Clare Noone, Enda O'Brien, Brian Ó Gallachóir, Tadhg O'Mahony, Tim O'Riordan, Tara Quinn, Agnieszka Stefaniec and Diarmuid Torney, 2023, IRELAND'S CLIMATE CHANGE ASSESSMENT: Synthesis Report. Environmental Protection Agency, Ireland, 36 pp.

Róisín Moriarty, Tadhg O'Mahony and Agnieszka Stefaniec, Jean L. Boucher, Brian Caulfield, Hannah Daly and Diarmuid Torney, 2023, IRELAND'S CLIMATE CHANGE ASSESSMENT Volume 4: Realising the Benefits of Transition and Transformation, Environmental Protection Agency, Ireland, 284 pp,

Sachs, J.D., Lafortune, G., Fuller, G. (2024). The SDGs and the UN Summit of the Future. Sustainable Development Report 2024. Paris: SDSN, Dublin: Dublin University Press. doi:10.25546/108572

Scottish Government (2008). Calculating Carbon Savings from Wind Farms on Scottish Peat Lands

Sustainable Energy Authority Ireland (SEAI) Energy in Ireland 2022 Report. December 2022.
<<https://www.seai.ie/publications/Energy-in-Ireland-2022.pdf>>

TII Air Quality Assessment of Proposed National Roads – Standard PE-ENV-01107. December 2022. (TII 2022a) <<https://www.tiipublications.ie/library/PE-ENV-01107-01.pdf>>

TII Climate Assessment of Proposed National Roads – Standard PE-ENV-01105. December 2022 (TII 2022b) <<https://www.tiipublications.ie/library/PE-ENV-01105-01.pdf>>

TII Climate Guidance for National Roads, Light Rail, and Rural Cycleways (Offline & Greenways) - Overarching Technical Document – Overarching Technical Document PE-ENV-01104. December 2022 (TII 2022c) <<https://www.tiipublications.ie/library/PE-ENV-01104-01.pdf>>

TII Carbon Tool for Road and Light Rail Projects: User Guidance Document. GE-ENV-01106. December 2022. (TII, 2022d) <<https://www.tiipublications.ie/library/GE-ENV-01106-01.pdf>>

TII Carbon Tool for Road and Light Rail Projects: User Guidance Document. GE-ENV-01106. December 2022. <<https://www.tiipublications.ie/library/GE-ENV-01106-01.pdf>>

TII (2020) TII Carbon Assessment Tool (Version 2).

UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997

UNFCCC (2012) Doha Climate Change Conference United Nations Framework Convention on Climate Change

United Nations (2024). The Sustainable Development Goals Report 2024

United Nations (2015) Transforming our World: the 2030 Agenda for Sustainable Development. Available at: <https://sustainabledevelopment.un.org/sdgs>

United Nations (2012). Doha Amendment to the Kyoto Protocol. United Nations Framework Convention on Climate Change.

United Nations (1998). Kyoto Protocol to the United Nations Framework Convention on Climate Change. United Nations Framework Convention on Climate Change, Bonn.

Wiser, R., Z. Yang, M. Hand, O. Hohmeyer, D. Infield, P. H. Jensen, V. Nikolaev, M. O'Malley, G. Sinden, A. Zervos, 2011: Wind Energy. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.



World Meteorological Organization (2025) State of the Global Climate 2024.

RECEIVED: 09/07/2025

Noise and Vibration

Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)

BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. (BS5228-1)

Transport Infrastructure Ireland (TII) (formerly National Roads Authority (NRA)) document Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA, 2004)

Design Manual for Roads and Bridges, Sustainability & Environment Appraisal LA 111 Noise and Vibration Revision 2 (National England (now National Highways) 2020) (DMRB)

BS 7385 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration (1993) (BS77385)

BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration. (BS5528-2)

Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines 2006 (WEDGs)

Department of Trade & Industry (UK) Energy Technology Support Unit (ETSU) publication The Assessment and Rating of Noise from Wind Farms (1996) (ETSU-R-97)

Institute of Acoustics (IOA) document A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (2013) including six Supplementary Guidance Notes (IOA GPG)

World Health Organisation (WHO) Environmental Noise Guidelines for the European Region (2018)

ISO 9613: Acoustics – Attenuation of sound outdoors, Part 2: General method of calculation (2024)

EPA Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3) (2011)

EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), 2016 (NG4)

Draft Revised Wind Energy Development Guidelines 2019 Department of Housing, Local Government and Heritage (2019 draft WEDGs)

World Health Organisation (WHO) document Community Noise (WHO, 1995)

South Australian Environment Protection Authority namely, Infrasound levels near windfarms and in other environments (EPA, 2013)

State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg Low Frequency Noise incl. Infrasound from Wind Turbines and Other Sources (2016)

IOA Noise Working Group (Wind Turbine Noise) Amplitude Modulation Working Group (AMWG) document A Method for Rating Amplitude Modulation in Wind Turbine Noise (IOA, 2016)

RenewableUK AM project (RenewableUK 2013)

RECEIVED: 09/07/2025



Department of Environment Food and Rural Affairs (DEFRA), the Department of Business, Enterprise and Regulatory Reform (BERR) and the Department of Communities and Local Government (CLG) Research into Aerodynamic Modulation of Wind Turbine Noise (2007)

Wind turbine AM review: Phase 2 report. 3514482A Issue 3. Department for Business, Energy & Industrial Strategy (2016)

ISO 1996: 2017: Acoustics – Description, measurement, and assessment of environmental noise.

RECEIVED: 09/07/2025

Archaeological and Cultural Heritage

Bradley, J., Halpin, A. and King, H. (1989) Urban archaeology Survey of Waterford City and County, 2 vols. Unpublished report commissioned by the Office of Public Works.

Byrne, F. J. 1973. Irish kings and high-kings. London: Batsford.

Cahill Wilson, J. 2014. Late Iron Age and Roman Ireland, Discovery Programme Report Series No. 8, Discovery Programme. Dublin. Wordwell.

Culleton E. (ed.) 1999. Treasures of The Landscape; Townland Names by An Tathair Seamas S. De Vaal Dublin: Trinity College.

Department of Arts, Heritage, Gaeltacht and the Islands. 1999a Framework and Principles for the Protection of the Archaeological Heritage. Dublin. Government Publications Office.

Department of Arts, Heritage, Gaeltacht and the Islands. 1999b Policy and Guidelines on Archaeological Excavation. Dublin. Government Publications Office.

Dowd, M. and Carden, R. 2016 First evidence of a Late Upper Palaeolithic human presence in Ireland. Quaternary Science Reviews: 158-163.

Environmental Protection Agency. 2015 Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Dublin. Government Publications Office.

Environmental Protection Agency. 2022 Guidelines on the Information to be Contained in Environmental Impact Statements. Dublin. Government Publications Office.

Gimson, H. and Bonsell, J. 2008. N77 Ballynaslee Realignment, County Kilkenny. Detection licence 08R0269. Unpublished report prepared by Earthsound Archaeological Geophysics.

Gimson, H. and Hogan, C. 2018. N77 Ballyragget Village to Ballynaslee Road Improvement Scheme, County Kilkenny. Detection licence 18R0092. Unpublished report prepared by Earthsound Archaeological Geophysics.

Hurley, M. F. 2022. Archaeological Monitoring at the Glanbia Milk processing Facility, Ballyconra, Ballyragget, Co. Kilkenny. Licence NO. 22E0334. Unpublished report prepared by M. Hurley).

Kilkenny City and County Development Plan (2021 – 2027)

Laois County Development Plan (2021 – 2027)

Lennon, A. 2008. Results from Archaeological Testing and Archaeological Impact Assessment of a proposed house development at Moatpark, Ballyragget, County Kilkenny. Licence No. 08E0368. Unpublished report prepared by AML Archaeology.

MacCotter, P. 2008. Medieval Ireland: Territorial, political and economic divisions. Dublin. Four Courts Press.

McErlean, T. 1983. "The Irish townland system of landscape organisation". In Reeves-Smyth, Terence; Hamond, Fred (eds) Landscape Archaeology in Ireland BAR British Series 116.

National Monuments Service, Department of Housing, Local Government and Heritage, Counties Laois and Kilkenny.

O'Sullivan, A., McCormick, F., Kerr, T.R., Harney, L. 2014. Early Medieval Ireland, AD 400-1100: The Evidence from Archaeological Excavations. Dublin. Royal Irish Academy.

RECEIVED: 09/07/2025

Stevens, P. 2000. Archaeological Excavations at Parksgrove 1, Co. Kilkenny. Licence No. 99E0597. Unpublished report prepared by Margaret Gowen and Co.

Stout, G. and Stout, M., 1997. Early Landscapes: from Prehistory to Plantation. In: F.H.A. Aalen, F.H.A., Whelan, K. and Stout, M., (eds.) Atlas of the Irish Rural Landscape. Cork: Cork University Press.

Stout, M. 1997. The Irish Ringfort. Dublin. Four Courts Press.

Stout, M. 2017. Early Medieval Ireland 431-1169. Bray. Wordwell.

Topographical Files of the National Museum of Ireland. Counties Laois and Kilkenny

Cartographic Sources

Down Survey of the Barony of Decies without Drum, in the County of Waterford, 1654-6

Ordnance Survey Mapping of Counties Laois and Kilkenny, 1842, 1906

Electronic Sources

www.excavations.ie – Summary of archaeological excavation from 1970-2025.

www.archaeology.ie – DHLGH website listing all SMR/RMP sites.

www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.

www.googleearth.com – Satellite imagery of the proposed project area.

www.bing.com – Satellite imagery of the proposed project area.

www.booksulster.com/library/plnm/placenamesC.php - Contains the text from Irish Local Names Explained by P.W Joyce (1870).

www.logainm.ie –Placenames Database of Ireland launched by Fiontar agus Scoil na Gaelige and the DHLGH.

RECEIVED: 09/07/2025

Landscape and Visual

Department of Arts, Heritage and the Gaeltacht (DAHG), 2015. National Landscape Strategy 2015–2025.

Department of Housing Planning and Local Government (DoHPLG), 2019. Draft Revised Wind Energy Development Guidelines

Department of the Environment and Local Government (DoELG), 2000. Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities

Department of the Environment, Heritage and Local Government (DoEHLG), 2006. Wind Energy Development Guidelines for Planning Authorities

Environmental Protection Agency of Ireland (EPA), 2022. Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

Landscape Institute, 2019. Visual Representation of Development Proposals: Landscape Institute Technical Guidance Note (LI TGN) 06/19

Landscape Institute & Institute of Environmental Management and Assessment UK (LI & IEMA), 2013. Guidelines for Landscape and Visual Impact Assessment, Third Edition

NatureScot, 2021. Guidance: Assessing the Cumulative Impact of Onshore Wind Energy Developments, includes methodology published in 2012; available online at: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments>.

Landscape Institute 2024, Notes and Clarifications on Aspects of GLVIA3: Landscape Institute Technical Guidance Note 2024-01

Scottish Natural Heritage (SNH), 2002. Visual Assessment of Wind Farms: Best Practice

Scottish Natural Heritage (SNH), 2014. Visual Representation of Wind Farms: Version 2 (SNH Guidance v.2)

Scottish Natural Heritage (SNH), 2015. Spatial Planning for Onshore Wind Turbines: Natural Heritage Considerations)

Scottish Natural Heritage (SNH), 2017. Siting and Designing Wind Farms in the Landscape, Version 3a (SNH Guidance v.3a)

Scottish Natural Heritage (SNH), 2017. Visual Representation of Wind Farms: Version 2.2 (SNH Guidance v.2.2)

RECEIVED 09/07/2025

Material Assets

Air Corps (August 2014) Draft Wind Farm/Tall Structures Position Paper.

Department of Housing, Planning and Local Government (August 2018) Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment. DHPLG, Dublin.

Department of Housing, Planning and Local Government (December 2019) Draft Revised Wind Energy Development Guidelines. DHPLG, Dublin.

Department of Housing, Planning and Local Government (June 2017) Review of the Wind Energy Development Guidelines 2006 – Preferred Draft Approach. DHPLG, Dublin.

Department of the Environment, Community and Local Government (2013). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. DoEHLG, Dublin.

Department of the Environment, Heritage and Local Government (2006). Wind Energy Development Guidelines for Planning Authorities. DoEHLG, Dublin.

Department of Transport, Tourism and Sport. (2019). Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works

Department of Transport, Tourism and Sport. (2017). Guidelines for the Opening, Backfilling and Reinstatement of Openings in Public Roads

Department of Transport, Tourism and Sport (2010) Guidance for the Control and Management of Traffic at Roadworks.

European Commission (2017): *Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report*;

Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

Environmental Protection Agency (EPA) (2021) Best Practice Guidelines on the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects.

Environmental Protection Agency. Corine Land Cover Maps.

[eMaps open eir Civil Engineering Infrastructure Service](#)

ESB Networks (2019) Code of Practice for Avoiding Danger from Overhead Electricity Lines.

ESB (2017) EMF & You: Information about Electric & Magnetic Fields and the electricity network in Ireland

French Renewables (2002) Wind Turbines, Radars and Waves

Irish Rail Industry 2020 Irish Railway Standard IRS-203-B: EMC Co-ordination

Irish Rail (2018) CCE Department Technical Guidance Document CCE-TMS-310 Guidance on Third Party Works

Irish Rail (2009) CCE Departmental and Multidisciplinary Standard I-DEP-0121 Third Party Works: Additional Details of Railway Safety Requirements.

RECEIVED 09/07/2025

- Irish Wind Energy Association (2012) Best Practice Guidelines for the Irish Wind Energy Industry.
- Kilkenny County Council (2022) Kilkenny City and County Development Plan 2021-2027
- Laois County Council (2022). Laois City and County Development Plan 2021-2027
- National Roads Authority (2007). Traffic and Transport Assessment Guidelines. NRA, Dublin
- National Roads Authority (2006). Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes
- National Roads Authority (2014). Good Practice for the Treatment of Noise during the Planning of National Road Schemes
- National Roads Authority (2011) NRA TD 41-42/11 Geometric Design of Major/Minor Priority Junctions and Vehicular Access to National Roads. NRA, Dublin.
- National Roads Authority (2011) Project Appraisal Guidelines, Unit 5.5 Link Based Traffic Growth Forecasting. NRA, Dublin.
- Open Eir (2025) <https://cei.openeir.ie/emaps/index.html#/map/52.805092,-7.351551,15z>
- Scottish Natural Heritage (2013) Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms
- TII (May 2019) Project Appraisal Guidelines, Unit 5.3, Travel Demand Projections PE-PAG-02017. Transport Infrastructure Ireland.
- TII (April 2017) DN-GEO-03060, Geometric Design of junctions. Transport Infrastructure Ireland.
- TII (April 2017) DN-GEO-03031, Rural Road Link Design. Transport Infrastructure Ireland.
- TII (2013) The Design Manual for Roads and Bridges ('DMRB'), Transport Infrastructure Ireland.
- TII (May 2014) Traffic and Transport Assessment Guidelines PE-PDV-02045. Transport Infrastructure Ireland.
- TII Automatic Traffic Count Data (on the M6)

Major Accidents and Natural Disasters

Central Statistics Office Ireland. Census of Ireland.

Department of Defence (2020). A National Risk Assessment for Ireland.

Department of Environment, Heritage and Local Government (2010). A Guide to Risk Assessment in Major Emergency Management.

Department of Transport (2010). Guidance for the Control and Management of Traffic at Roadworks – Second Edition.

Environmental Protection Agency (May 2022): Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. EPA, Wexford.

Environmental Protect Agency (2014). Guidance on Assessing and Costing Environmental Liabilities.

European Commission (2017). Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report.

European Union (2014). Directive 2014/52/EU. European Parliament and European Council.

European Union (2011). Directive 2011/92/EU. European Parliament and European Council.

Fáilte Ireland. Available at <https://www.failteireland.ie/>

Fire and Emergency Operations Plan 2022-2026 - Kilkenny County Council Fire and Rescue Service (2022)
Kilkenny County Council

Irish National Seismic Network. Available at <https://www.insn.ie/>

Irish Statute Book (2005). Safety, Health and Welfare at Work Act 2005 (S.I. No. 10 of 2005).

Irish Statute Book (2000). The European Communities Control of Major Accident Hazards Involving Dangerous Substance Regulations. (S.I. No. 476 of 2000).

Kilkenny County Development Plan 2021-2027

Laois County Development Plan 2021- 2027

Laois County Major Emergency Response Plan (2020)

Southern Regional Assembly (2020). Regional Spatial and Economic Strategy (RSES).

Southern Regional Assembly (2010). Regional Planning Guidelines for the Southern Region 2010-2022.

RECEIVED: 09/07/2025