

Volume 2 Table of Contents

1	INTRODUCTION	1 - 1
1.1	Overview	1
1.2	The Applicant.....	2
1.3	Site Location	2
1.4	Project Summary	3
1.4.1	Landowner and Application Area.....	3
1.5	Assessment Methodology	4
1.5.1	Legislative and Policy Context Overview.....	4
1.5.2	Screening.....	4
1.5.3	Scoping.....	5
1.5.4	Consultation during the Cushaling Wind Farm EIAR	6
1.5.5	Consultation for the stand alone Kilcumber Bridge 110kV substation	7
1.6	Structure of the Environmental IMPACT ASSESSMENT Report	8
1.6.1	Technical Difficulties and Availability of Data	9
1.6.2	Note on Quotation	9
1.6.3	Note on Drawings and Graphics.....	9
1.7	Study Team and Contributors to the Environmental Report	9
2	DESCRIPTION OF THE PROPOSED DEVELOPMENT	2 - 1
2.1	Introduction	1
2.2	Project Summary	1
2.3	Site Description.....	4
2.3.1	Site Location.....	4
2.3.2	Environmental Setting.....	4
2.4	Description of the Project.....	6
2.4.1	Design of proposed substation	6
2.4.2	Drainage	7
2.4.3	Excavated and Imported Materials	7
2.5	Construction phase	8
2.5.1	Construction timeframe	8
2.5.2	Construction description.....	8
2.5.3	Construction Hours and Personnel	11
2.5.4	Communication with the Local Community.....	11
2.5.5	Construction and Environmental Management Plan.....	11
2.5.6	Water Requirement and Supply.....	12

2.5.7	Fuel Storage and Management.....	12
2.5.8	Health and Safety	12
2.6	Operational Phase	13
2.7	Decommissioning.....	13
2.8	Cumulative Impacts	13
2.9	Project need and Alternatives	14
2.9.1	Project need	14
2.9.2	Alternative substation location	14
2.9.3	Alternative grid connection route.....	15
2.9.4	Underground cable or overhead line grid connection alternative.....	15
2.10	Note on Risks of Major Accidents and Disasters	15

3	POPULATION AND HUMAN HEALTH.....	3 - 1
3.1	Introduction	1
3.1.1	Scope of Assessment.....	1
3.1.2	Methodology.....	2
3.2	Existing Environment	5
3.2.1	Site Location and Description	5
3.2.2	Population and Settlement Patterns.....	5
3.2.3	Economic Activity and Employment	10
3.2.4	Land-uses	11
3.2.5	Tourism and Amenity Resources.....	12
3.3	Impact Assessment	14
3.3.1	Construction Phase Impacts.....	14
3.3.2	Operational Phase.....	16
3.4	Mitigation Measures.....	18
3.5	Residual Impacts.....	18
3.6	Conclusion	18

4	BIODIVERSITY.....	4 - 1
4.1	Introduction	1
4.1.1	Legislation and Policy Context	1
4.1.2	Consultation.....	1
4.1.3	Methodology	2
4.1.4	Database Searches and Data Requests for Previously Recorded Data	2

4.1.5	Field Surveys	3
4.1.6	Assessment Criteria	4
4.1.7	Statement on Limitations and Difficulties Encountered	7
4.2	Receiving Environment	8
4.2.1	Designated Sites.....	8
4.2.2	Habitats and Flora.....	14
4.2.3	Fauna	18
4.2.4	Evaluation of Designated Sites, Habitats and Fauna	34
4.2.5	Do-Nothing Scenario.....	37
4.3	Likely Significant Effects	37
4.3.1	Construction phase	37
4.3.2	Operational Phase	41
4.3.3	Decommissioning Phase	42
4.3.4	Cumulative effects	42
4.4	Mitigation.....	47
4.4.1	Construction phase	47
4.4.2	Operational Phase	50
4.4.3	Decommissioning Phase	51
4.5	Residual Impacts.....	51
4.6	Conclusion	56

5 LAND AND SOIL 5 - 1

5.1	Introduction	1
5.1.1	Scope of Assessment	1
5.1.2	Methodology	1
5.1.3	Assessment Criteria	2
5.1.4	Statement on Limitations and Difficulties Encountered	2
5.1.5	Competency of Assessor	2
5.2	Existing Receiving Environment.....	2
5.2.1	Location of the Proposed Site	2
5.2.2	Topography	4
5.2.3	Land Use	4
5.2.4	Regional Geology.....	4
5.2.5	Local Geology	5
5.2.6	Soil and Subsoil.....	5
5.2.7	Bedrock Geology	7
5.2.8	Geological Heritage	9
5.2.9	Economic Geology	11
5.2.10	Do-Nothing Scenario	14



5.3 Likely Significant Effects	14
5.3.1 Construction Phase.....	15
5.3.2 Materials and Waste	17
5.3.3 Operational Phase	18
5.3.4 Risk of Major Accidents and Disasters.....	18
5.3.5 Cumulative Effects.....	18
5.4 Mitigation.....	19
5.4.1 Construction Phase.....	19
5.4.2 Operational Phase	21
5.4.3 Mitigation Measures for Cumulative Impacts	21
5.5 Residual Impacts.....	21
5.6 Conclusion	21
References.....	22

6 WATER 6 - 1

6.1 Introduction	1
6.1.1 Scope of assessment	1
6.1.2 Methodology	1
6.1.3 Assessment Criteria	2
6.1.4 Statement on Limitations and Difficulties Encountered	6
6.1.5 Competency of Assessor	6
6.2 Existing Receiving Environment.....	7
6.2.1 Site and project context	7
6.2.2 Surface Hydrology	8
6.2.3 Groundwater	12
6.2.4 Do-Nothing Scenario	15
6.3 Likely Significant Effects	16
6.3.1 Construction Phase.....	16
6.3.2 Operational Phase	16
6.3.3 Decommissioning Phase	17
6.3.4 Summary of unmitigated impacts on sensitive receptors.....	17
6.3.5 Risk of major accidents and disasters.....	18
6.3.6 Cumulative effects.....	18
6.4 Mitigation.....	19
6.4.1 Construction Phase.....	19
6.4.2 Operational Phase	22
6.5 Residual Impacts.....	22
6.6 Conclusion	25



7 AIR AND CLIMATE	7 - 1
7.1 Introduction	1
7.1.1 Scope of Assessment.....	1
7.1.2 Methodology.....	1
7.1.3 Assessment Criteria.....	2
7.1.4 Statement on Limitations and Difficulties Encountered	3
7.2 Existing Environment	3
7.2.1 EPA Air Quality Index for Health (AQIH).....	5
7.3 Likely significant effects	6
7.3.1 Construction Phase	6
7.3.2 Operational Phase.....	7
7.3.3 Risk of Major Accidents and Disasters	7
7.3.4 Cumulative Effects	7
7.4 Mitigation Measures.....	8
7.4.1 Construction Phase	8
7.4.2 Operational Phase.....	9
7.5 RESIDUAL IMPACTS.....	9
7.6 CONCLUSION	9

8 NOISE	8 - 1
8.1 Introduction	1
8.1.1 Substations and Noise Emissions	1
8.1.2 Fundamentals of Noise	1
8.1.3 Scope of assessment	3
8.1.4 Methodology.....	3
8.1.5 Statement on Limitations and Difficulties Encountered	6
8.1.6 Competency of Assessor	6
8.2 Existing receiving environment.....	7
8.2.1 Noise Sensitive Receptors (NSR's).....	7
8.2.2 Background Noise Monitoring	8
8.2.3 Do-Nothing Scenario	8
8.3 Likely Significant Effects	9
8.3.1 Construction Phase	9
8.3.2 Operational Phase.....	11
8.3.3 Cumulative Impact	12
8.4 Mitigation.....	12
8.4.1 Operational Phase.....	12
8.4.2 Construction Phase	13

8.5 Monitoring	13
8.6 Residual Impacts.....	13
8.7 Conclusion.....	13
REFERENCES	14

9 LANDSCAPE AND VISUAL 9 - 1

9.1 Introduction	1
9.1.1 Relevant Guidance	1
9.1.2 Statement Of Authority.....	1
9.1.3 Methodology.....	2
9.1.4 Assessment Criteria.....	2
9.1.5 Definition Of Study Area	6
9.2 Existing Environment	8
9.2.1 Landscape Baseline	8
9.2.2 Visual Baseline.....	12
9.2.3 Sensitivity of the Landscape.....	17
9.2.4 Sensitivity of Visual Receptors	19
9.3 Likely Significant Impacts	20
9.3.1 Likely Landscape Impacts	20
9.3.2 Likely Visual Impacts	21
9.3.3 Impacts during Construction.....	28
9.3.4 Likely Cumulative Effects	29
9.4 Mitigation.....	32
9.5 Residual Impacts.....	32
9.6 Conclusion	33
9.6.1 Landscape Impacts	33
9.6.2 Visual Impacts	33
9.6.3 Cumulative	33
9.6.4 Overall Significance of Impact	33

10 CULTURAL HERITAGE 10 - 1

10.1 Introduction	1
10.2 Scope of assessment	2
10.2.1 General	2
10.2.2 Statement on Limitations and Difficulties Encountered	2



10.2.3	Conventions, Legislation and Guidelines.....	3
10.2.4	Competency of the Assessor	3
10.3	Methodology	3
10.3.1	Field Inspection	4
10.3.2	Desk-based Assessment	4
10.4	Existing Receiving Environment.....	5
10.4.1	Location	5
10.5	Placenames	6
10.6	Archaeological and Historical Background	7
10.6.1	General.....	7
10.7	Prehistory.....	8
10.8	Archaeology of the Study Area in Proximity to the PROPOSED SUBSTATION	8
10.8.1	Toghers.....	9
10.8.2	Enclosure	11
10.9	Cartographic Research	11
10.9.1	Down Survey Maps 1655.....	11
10.10	Historic Ordnance Survey Maps.....	13
10.10.1	Archaeology	13
10.10.2	Built Heritage	13
10.11	Excavations Ireland Database	15
10.12	Archaeological Landscapes	16
10.13	National Museum of Ireland (NMI) Topographic Files.....	16
10.14	Field Inspection.....	16
10.15	Likely Significant Impacts	18
10.15.1	General.....	18
10.15.2	Likely Impacts on the known recorded archaeology, unknown potential archaeology and wider cultural heritage.....	18
10.15.3	Operational Phase.....	19
10.15.4	Do-Nothing Scenario	19
10.15.5	Decommissioning Phase	19
10.15.6	Risk of major accidents and disasters	19
10.15.7	Cultural Visual Impacts.....	19
10.15.8	Cumulative Impacts	19
10.16	Residual Impacts.....	19
10.17	Mitigation.....	19
10.18	Conclusions	20

10.19 References.....	20
------------------------------	-----------

11. TRAFFIC AND TRANSPORTATION..... 11 - 1

11.1 Introduction	1
11.1.1 Scope of Assessment	1
11.1.2 Methodology and References.....	1
11.1.3 Assessment Criteria	1
11.1.4 Statement of Limitations and Difficulties Encountered.....	2
11.1.5 Competency of Assessor.....	2
11.2 Existing Environment	2
11.2.1 Do-Nothing Scenario.....	2
11.3 Likely Significant Impacts	6
11.3.1 Do Nothing Impacts	6
11.3.2 Construction Phase Impacts	8
11.3.3 Operational Phase Impacts	10
11.3.4 Risk of Major Accidents and Disasters	11
11.3.5 Cumulative Effects	11
11.4 Mitigation.....	13
11.4.1 Construction Phase.....	13
11.4.2 Operational Phase	13
11.5 Residual Impacts.....	14
11.5.1 Construction Phase.....	14
11.5.2 Operational Phase	14
11.6 Conclusion	14

12 MATERIAL ASSETS..... 12 - 1

12.1 Introduction	1
12.1.1 SCOPE OF ASSESSMENT	1
12.1.2 Methodology	2
12.1.3 Assessment Criteria	3
12.1.4 Statement on Limitations and Difficulties Encountered.....	3
12.1.5 Competency of Assessor.....	3
12.2 Existing Environment	4
12.2.1 Electrical Infrastructure	4
12.2.2 Water Supply, Sewerage and Gas Infrastructure.....	5
12.2.3 Resource Use and Waste Management.....	5



12.3 Likely Significant Impacts	6
12.3.1 Electrical Infrastructure	6
12.3.2 Water Supply, Sewerage and Gas Infrastructure.....	6
12.3.3 Resource Use and Waste Management.....	6
12.4 Mitigation.....	7
12.4.1 Electrical Infrastructure	7
12.4.2 Water Supply, Sewerage and Gas Infrastructure.....	7
12.4.3 Resource Use and Waste Management.....	7
12.5 Residual Impacts	7
12.6 Cumulative Impacts	8
12.7 Conclusion	8

13 INTERACTION OF THE FOREGOING	13 - 1
13.1 Introduction	1
13.1 Scope and Methodology of Assessment.....	1
13.2 Interaction of environmental impacts.....	1
13.2.1 Main Interactions.....	3
13.2.2 Minor Interactions	3
13.2 Mitigation and Residual Effects	5
13.3 Conclusion	5

14 SCHEDULE OF ENVIRONMENTAL MITIGATION	14 - 11
14.1 Introduction	1
14.2 Format of the Mitigation Schedule	1