

ECOLOGIST'S PACK



EXTERNAL WALL INSULATION (EWI) AND ASSOCIATED WORKS TOOLKIT

Pack B: Ecologists | Part 1: General Introduction
Home Improvement Series





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TOOLKIT PACKS



Pack A: Clients Pack

Part 1 - General introduction

Part 2 - Guidance for clients



Pack B: Ecologist's Pack

Part 1 - General introduction

Part 2 - Guidance for Ecologists

Part 3 - Precautionary Derogation Licence Application

- *application form*

- *MS template*



Pack C: Contractors Pack

Part 1 - General introduction

Part 2 - Guidance for Contractors

Part 3 - Mitigation method statement

Part 4 - Toolbox talk



Pack D: Mitigation Pack

Part 1 - Property mitigation audit form

Part 2 - Example of a completed mitigation audit form

Part 3 - Mitigation solutions and enhancements catalogue

Part 4 - Bat and bird public information request

Part 5 - Information on protected species and wildlife boxes for property owners



OVERALL PROCESS

STAGE 1: Determine risk to bats and breeding birds

- Desktop survey including Local Record Centre search
- Walkover survey by suitably qualified ecologist checking for signs of bats, bat potential including potential access points and signs of breeding birds

Property has NO signs of breeding birds or bats / potential for bats – continue with works incorporating enhancements on those properties

Property has signs of breeding birds or bats / potential for bats – continue to stage 2

STAGE 2: Mitigate through design

- Avoid impacts by ensuring all bat access points are retained and the roofline/soffits are not affected
- Carry out works outside of bird breeding season
- Provide replacement bird nests appropriate for relevant species

Property's bat access points CAN be retained / no extensions to the roof required / no new soffits/fascias required

- Produce method statement including bat and bird mitigation and enhancements and apply for precautionary bat licence
- continue with works in accordance with method statement for those properties

Property's bat access points CANNOT be retained / extensions to the roof required / new soffits/fascias required – continue to stage 3

STAGE 3: Presence / absence survey

- Where potential impacts can't be avoided, bat presence / absence surveys will be required in accordance with published guidelines

Property has NO evidence of bats

- Produce method statement including bat and bird mitigation and enhancements and apply for precautionary bat licence
- Continue with works in accordance with method statement for those properties

Property HAS evidence of bats - Apply for specific bat (derogation) licence for that property and carry out works in accordance with method statement (incorporating bird mitigation and enhancements) OR do not carry out works



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1 INTRODUCTION

1.1 Background

- 1.1.1 Domestic dwellings in many regions across Wales are being selected to receive energy efficiency improvements under various Welsh Government grant schemes.
- 1.1.2 Grants are most often awarded to local authorities and housing associations, who then commission contractors to deliver the work. The contractors might have to tender for the contract or might be part of an existing framework agreement with the local authority.
- 1.1.3 Separate to the grant schemes, there are also private individuals / associations / businesses installing EWI under permitted development.
- 1.1.4 Due to the extent and timing, where not appropriately considered and planned, these EWI schemes and individual installations incorporate an overall high level of risk of having a significant impact on roosting bat populations and opportunities for breeding birds across Wales.
- 1.1.5 Recognising this issue, Ceredigion County Council, with funding from the Welsh Government, set out to create an ecological guidance toolkit for use by local authorities and contractors involved in energy improvement schemes, with particular emphasis on External Wall Insulation (EWI¹) and associated works. Ecologists Dr Catharine Wüster (Green Man Ecology Ltd) and Mr Tom McOwat were commissioned by Ceredigion County Council to draft this toolkit on behalf of Ceredigion County Council.
- 1.1.6 It should be noted that although other aspects of energy efficiency improvements are touched on in this guidance, more detailed guidance is intended to be provided in the future on these specific issues e.g. cavity wall insulation.

1.2 A brief summary of EWI and the installation process

- 1.2.1 The installation of EWI involves fixing blocks of solid insulation to the outside walls of a structure using plugs and adhesives. Exposed edges will be fitted with a weather-proof trim. After the material has been fixed to the walls the surface is rendered and painted with an exterior finish. Several systems have been developed that vary in the materials and fixings used and some are more complex than others.

¹ Note: the EWI (External Wall Insulation) abbreviation used in this report and throughout the Toolkit has been defined solely for convenience of use in the documents herein and does not represent any standard abbreviation, company or product.



- 1.2.2 The installation process requires that entire walls be covered to prevent 'cold (or thermal) bridge' effects. A cold bridge is an area in a building where a gap occurs in the insulation (for example: the roof/wall junction and the wall/floor junction). As these areas will be colder than the main areas there is a greater risk of condensation forming and the added potential problem of mould growth².
- 1.2.3 In order for the insulation to be effective, other prerequisite steps may be necessary, for example the sealing of the tops of wall plates between the plate and the eaves, or filling the top gap of a cavity wall, relocation of air vents.
- 1.2.4 External wall insulation protrudes from the wall by approximately 80 mm. In order to accommodate the extra thickness on the walls, soffits and fascia boards might need to be replaced, or rooflines extended. The soffits and fascia are usually plastic moulded fittings and the trims, powder-coated, formed aluminium.

1.3 Potential impact of EWI on bats

- 1.3.1 The application of EWI and the associated works has potential to adversely affect bats and their resting places (roosts) in the following ways:
1. Direct disturbance to bats as a result of human activity on a structure where a roost/resting place is present (e.g. removal of fascia boards, destruction of a soffit, removal of roof slates)
 2. Indirect destruction of a bat roost as a result of blocking up roost entrances (e.g. blocking of eaves access with insulation or sealant, sealing access to cavity wall, blocking up soffits)
 3. Indirect disturbance/destruction where the environmental conditions of the roost are no longer suitable as a result of the effect of the insulation and bats are forced to move.
 4. Indirect destruction of a bat roost as a result of making an entrance point unsuitable (e.g. due to slippery surfaces of trims and/or plastic soffits/fascia).
 5. Welfare implications, including stress and injury to bats, or death.
 6. Death, for example as a result of bats becoming entombed in a roost space as a result of entrance points being blocked.

1.4 Summary of legislation and policy guidance affecting bats

- 1.4.1 All UK bat species are protected by National legislation (Wildlife and Countryside Act 1981³, (as amended) and The Conservation of Habitats and Species Regulations 2010

² www.eden.gov.uk/planning-and...control/.../prevention-of-cold-bridges/

³ <http://www.legislation.gov.uk/ukpga/1981/69/contents>



- (as amended)⁴) and European legislation (EC Habitats Directive 1992). The Conservation of Habitats and Species Regulations 2010 (as amended) transpose the Habitats Directive into law in the UK.
- 1.4.2 The Conservation of Habitats and Species Regulations 2010 is applicable with regards to property development and makes it an offence to:
- Deliberately capture, injure or kill a bat
 - Deliberately disturb a bat in its roost or deliberately disturb a group of bats
 - Damage or destroy a bat roosting place (even if bats are not in the roost at the time)
 - Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat
- 1.4.3 The legislation states any disturbance includes works which are likely;
- a) to impair bats ability;
 - i. to survive, to breed or reproduce, or to rear or nurture their young, or
 - ii. to hibernate or migrate; or
 - b) to affect significantly the local distribution or abundance of the species to which they belong.
- 1.4.4 The Wildlife and Countryside Act 1981 adds an additional offence of obstruction to access of a bat roost.
- 1.4.5 Selected species are afforded additional levels of conservation importance depending upon their conservation status at local, national and international levels. For example, certain species are included in Section 7 of the Environment Act (2016), a provisional list of species of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. Section 7 replaces the UK Biodiversity Action Plan and the Natural Environment and Rural Communities Act 2006 Section 42 list of species and habitats in Wales. Certain species are included on the IUCN Red Data list of Threatened Species, a global approach for evaluating the conservation status of plant and animal species.
- 1.4.6 In order to take account of this legislation and conservation of these species, protected species surveys are required prior to any works being carried out if there is a risk that protected species might be encountered. These surveys are to determine whether the species are present, and to what extent they may be affected. Advice should always be sought from the Local Authority Biodiversity Officer/Ecologist or the Protected Species Officer at Natural Resources Wales (NRW) as to whether the surveys are needed and to what level³. In some cases, with advice from the LA Biodiversity Officer/Ecologist or NRW, avoidance of impacts or continued ecological functionality can be achieved through mitigation, which may avoid/lessen survey requirements.
- 1.4.7 Protected species activity is seasonal and surveys may have to take place over several months and therefore if required, this will need to be timetabled into the

⁴ <http://www.legislation.gov.uk/uksi/2010/490/contents/made>



- works. Additional time should be incorporated for a Derogation (European Protected Species) Licence application to be made if needed (approximately 40 working days).
- 1.4.8 A Derogation Licence is required from the NRW if any acts associated with the development might result in causing an offence under the National law detailed above. The licence application needs to be accompanied by a method statement that details all the mitigation and compensation measures to be provided.
- 1.4.9 A licensing authority cannot issue a licence to enable development to be carried out unless it is satisfied that:
- there is "no satisfactory alternative" to the derogation⁵, and
 - the derogation is "not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range"³.
- 1.4.10 It must also be determined whether the development is preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
- 1.4.11 The development may require Planning Permission and therefore the Local Authority should also be contacted to determine whether planning permission is required, for example in some cases EWI is not permitted development. Building regulations often apply, regardless of planning.⁶

1.5 Reasons for bat protection

- 1.5.1 All British bats are protected by European legislation because populations of all species have declined across Europe over several decades. Bat populations are especially vulnerable because bats are slow to reproduce (bats only produce low numbers of young, with many females having just a single baby in one year) and they raise young in colonies, with the result that 1) if the colony is damaged, then the entire breeding success of a roost can be lost in one go and 2) if more than one colony is affected or a very large colony is affected, the population is quickly reduced and takes a long time to recover.
- 1.5.2 Declines in bat numbers have resulted mostly from loss of habitat including large-scale loss of woodland (especially mature trees), conversion of old farm buildings to dwellings and sealing up of buildings in order to preserve energy in new and old buildings. Bats also suffer direct persecution.

⁵ Technical Advice Note 5: Nature Conservation and Planning (2009). Planning Policy Wales: Welsh Government

<http://wales.gov.uk/docs/desh/policy/100730tan5en.pdf>

⁶ <http://www.planningportal.gov.uk/permission/house>



1.6 Potential impact of EWI on birds

- 1.6.1 Other protected species that can be affected by the proposed works are nesting birds in/on domestic structures.
1. The EWI works could result in the destruction of nests/eggs or killing of young which would be an offence.
 2. Birds could also lose resting places as a result of the installation of EWI.
 3. Regular nesting sites can be lost.
 4. Active nests could be disturbed (with the added potential for a nest to fail).

1.7 Summary of legislation affecting birds

- 1.7.1 All birds are protected under the Wildlife and Countryside Act 1981 (as amended).
- 1.7.2 In particular it is an offence for any person to:
- intentionally, kill, injure or take any wild bird
 - intentionally, deliberately or recklessly take, damage or destroy the nest of any wild bird while that nest is being built or is in use
 - intentionally, deliberately or recklessly take, damage or destroy an egg of any wild bird.
- 1.7.3 Some birds, including barn owls, are protected by special penalties under Schedule 1 of the Wildlife and Countryside Act (1981) from intentional or reckless disturbance when on or near an active nest.

1.8 Reasons for bird protection

- 1.8.1 All wild birds are protected by the Wildlife and Countryside Act because bird populations have also suffered as a result of habitat loss, including the loss of suitable nesting sites. Some species have also experienced significant population declines in the last decade as a result of disease.
- 1.8.2 The conservation status of bird species is graded⁷ 'red', 'amber' or 'green'. The most vulnerable are red and amber species. Red includes species of high conservation concern that have suffered a severe decline (at least 50%) in population size/range and are in need of urgent action. Amber species have unfavourable conservation status as a result of moderate decline (25%-49%) in population size/range.
- 1.8.3 The house sparrow is one example of a previously common species that has suffered a significant population decline over the last two decades and that has 'red' conservation status. Sparrows are one of the most commonly encountered species in areas receiving EWI, due to the preference for using gaps in structures/dwellings as nest sites. Many sparrow nest sites will be lost as a result of EWI being fitted. Another species commonly found on dwellings that will be vulnerable to loss of

⁷ http://www.rspb.org.uk/discoverandenjoynature/discoverandlearn/birdguide/status_explained.aspx



suitable nest sites is the house martin, which has an amber conservation status. House martins nest under the overhangs of soffits, but these nest sites often become unsuitable after EWI has been fitted because a soffit with EWI is narrower and does not provide sufficient shelter from the elements.

1.9 Other legislative considerations

- 1.9.1 Many of these EWI schemes are being carried out by LAs or being carried out on behalf of LAs, with the funding being provided by Welsh Government. Therefore, it should be noted that there are additional legislative requirements that must be considered by these bodies, and therefore those undertaking work on their behalf.
- 1.9.2 In addition to the legislation described above, a competent authority, in exercising any of their functions, must have regard to the requirements of the Habitats Directive so far as they may be affected by the exercise of those functions. Competent authorities include the Welsh Government, public bodies, ministers etc., as well as any person exercising a function on behalf of these bodies⁸.
- 1.9.3 All public bodies are also subject to the duty to seek to maintain and enhance biodiversity in exercising their functions and in so doing promote the resilience of ecosystems (Section 6 of the Environment Act 2016⁹).
- 1.9.4 Furthermore, public bodies have a duty under the Wellbeing and Future Generations Act (2015) to take all reasonable steps to exercise their functions to meet their Sustainable Development objectives.
- 1.9.5 More information on these requirements can be found in PACK A Part 2.

1.10 EWI scheme constraints and implications for wildlife

- 1.10.1 The EWI schemes have been historically, and are likely to continue to be, constrained by time. Work is expected to commence as soon as funds are released and to be completed within an approximately 6-month timeframe. The funds can be released at any time of year. If funds are released in the autumn or winter, outside the active season for wildlife, then no opportunity exists to provide an appropriate level of wildlife survey¹⁰ (for example bat emergence surveys) required to determine what the likely impacts would be and how they are best to be mitigated/compensated.
- 1.10.2 The work is usually constrained by a tight budget that, at the time of writing this guidance, does not provide sufficient allocation for extensive wildlife surveys,

⁸ <http://www.legislation.gov.uk/uksi/2010/490/contents/made>

⁹ <http://www.legislation.gov.uk/anaw/2016/3/contents/enacted>

¹⁰ Collins, J (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-972745-96-1



especially on large schemes involving over 100 houses. The cost of undertaking the appropriate level of surveys on the properties could also bring into question the viability of the schemes.

- 1.10.3 Extensive wildlife surveys are also limited by the availability of qualified bat surveyors, given that 2 or more surveyors will be needed to cover a single building and that surveys can be limited to just one structure per night. Surveys are also dependent on having suitable weather conditions and might have to be repeated if inconclusive.
- 1.10.4 Due to these issues, it was imperative that a toolkit be produced to allow for EWI schemes, which are positive for the wider environment and have health and social benefits for the tenants/homeowners and economic benefits. The toolkit allows schemes to go forward in a consistent and pragmatic way, with impacts to bats and birds minimised, and where possible to achieve a net gain.

2 AIMS AND OBJECTIVES

2.1 Aim of the EWI Toolkit

- 2.1.1 The aim of the EWI Toolkit is to provide local authorities (and other EWI clients), ecologists and contractors with guidance in the form of an information pack on;
- how to avoid committing a wildlife offence when EWI is installed on a building (at any time of year);
 - how to maintain and enhance biodiversity in carrying out the scheme; and
 - how to manage wildlife welfare issues that might arise during the installation.
- 2.1.2 The objectives were to:
1. Identify the possible risks to bats and birds resulting from the installation of EWI;
 2. Identify measures to avoid committing an offence under the Conservation of Habitats and Species Regulations 2010 (as amended), Wildlife and Countryside Act 1981 (as amended) and the Environment Act 2016, as well as provide for the maintenance and enhancement to species of concern. The measures include reasonable avoidance measures and design solutions for bats and birds;
 3. Devise a toolbox talk for contractors that emphasises the risk to protected species, reasonable avoidance measures to avoid committing any wildlife offence, and that identifies health and safety issues (with regards to bats and birds);
 4. Devise a method statement for the contractors carrying out the installations; and
 5. Devise a method statement and application process for a precautionary European Protected Species licence (as necessary).



3 METHODS

3.1 Previous experience with EWI

- 3.1.1 Green Man Ecology Ltd has developed mitigation approaches and design solutions after three years of experience working with EWI contractors. This experience was gained from working on schemes of varying sizes (from 100 up to 500 properties), with diversity of structure (age and construction), and in different geographical areas with varying landscape features.
- 3.1.2 Experience in the following aspects of EWI schemes have been used to inform development of the toolkit:
- 1) Logistics and cost of protected species survey and ecological clerk of works.
 - 2) Logistics and benefits of walkover surveys.
 - 3) Ability to communicate information to contractors via site managers.
 - 4) Logistics and costs of mitigation solutions.
 - 5) Health and safety on site.
 - 6) Reporting and audit.
 - 7) Protected species impact assessment.
- 3.1.3 3.1.3 Graeme Lane, Energy Efficiency Officer for Ceredigion County Council has been involved in EWI for a number of years and has led on the Arbed scheme on behalf of the Council.

3.2 Experience in bat ecology

- 3.2.1 Tom McOwat has over 40 years and Catharine Wüster over 7 years experience working in bat ecology, including bat survey and mitigation design.
- 3.2.2 Leanne Bird, Senior Ecologist / Biodiversity Officer at Ceredigion County Council has been working in ecology, including planning policy and wildlife legislation (including bats) for 10 years.

3.3 Consultation

- 3.3.1 Discussions were held by phone with ecologists and/or biodiversity officers from five local authorities in order to gain an idea of previous experiences and approaches when working with EWI schemes.
- 3.3.2 Discussions were held with other ecologists who have had experience of working with EWI schemes.
- 3.3.3 Discussions with contractors involved in EWI (Wilmott Dixon Energy Services Ltd) were also carried out as part of the development process.
- 3.3.4 An informal consultation was carried out with Welsh Government, NRW, Bat Conservation Trust, RSPB and selected LAs.



3.4 Trial

3.4.1 During the production of the toolkit, the methods were trialled to ensure their suitability and practicality for inclusion with the scheme. This has enabled a more robust toolkit to be produced, incorporating solutions to the barriers and issues faced.

4 RESULTS

4.1.1 An EWI toolkit has been produced that includes the following packages:

PACK A – Client’s Pack

- Part 1 - General introduction
- Part 2 - Guidance for clients

PACK B - Ecologist's Pack

- Part 1 - General introduction
- Part 2 - Guidance for Ecologists
- Part 3 - Precautionary Derogation Licence Application
 - *application form*
 - *MS template*

PACK C - Contractor's Pack

- Part 1 - General introduction
- Part 2 - Guidance for Contractors
- Part 3 - Mitigation method statement
- Part 4 - Toolbox talk

PACK D - Mitigation Pack

- Part 1 - Property mitigation audit form
- Part 2 - Example of a completed mitigation audit form
- Part 3 - Mitigation solutions and enhancements catalogue
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