



## **Annual Environmental Report 2008**

**March 2009.**

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner. The company turnover for 2007/8 was €370m.

## A NEW CONTRACT WITH NATURE

Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment. Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields. With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.

In 1934 the Turf Development Board was formed to 'develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.

In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

## Group Vision



The vision statement defines the Company's purpose, in terms of its values.

Values are guiding beliefs about how things should be done.

The vision statement communicates both the purpose and values of Bord na Móna.

For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.

In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.

Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

## Group Mission

We conduct our affairs with openness, honesty and integrity.

We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.

We capitalise on international opportunities where we have a competitive advantage.

We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.

We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

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## 1.0 INTRODUCTION

### 1.1 IPC LICENCE REGISTER NO 505

Bord na Móna Energy Limited was granted an Integrated Pollution Control Licence by the EPA on 18 May 2000, for its operations in the Oweninny group of bogs. This report is the eight AER for the operations and covers the period from 1st January 2008 to 31st December 2008.

### 1.2 Name and location of site

The Oweninny group of bogs consists of two discrete clusters of bogs, approximately ten miles apart and centred largely around Bellacorick in North West County Mayo. Some of the main contact and location details of the company are presented in summary form below.

Company Name: Bord na Móna Energy Limited

Site Address: Oweninny Group  
Bellacorick  
Ballina  
Co. Mayo

IPC Licence Number: 505

Telephone No: 096 - 53002

Fax No: 096 – 53094

Contact Name: Richard Cosgrove  
Position: General Manager

National Grid Reference: E098890 N319540

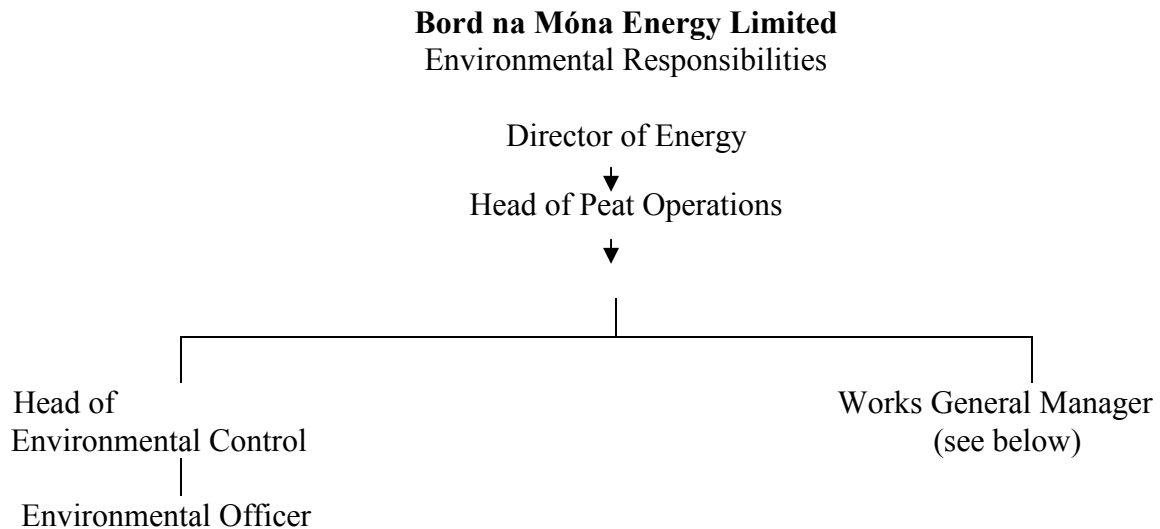
### 1.3 Brief Description Of Activities

As Milled Peat Production ceased in September 2003, this activity does not apply for the period covered by this AER.

The Oweninny group of bogs comprises a total of 7,590 ha, all of which is comprised primarily of cutaway bog land, partly developed bog land, yards, railway lines and areas of upland and undeveloped bog.

## 1.4 Environmental Management Of The Company

The management structure illustrating environmental responsibilities within Bord Na Mona Energy Ltd in 2006 is shown below in the organisation chart in Figure 1.



**Figure 1 Environmental Responsibilities Structure**

The responsibilities for the Oweninny group are distributed as follows:

- (1) Overall environmental responsibility.
- (2) Records and complaints register.
- (3) All operational issues, (silt, noise, waste, code of practice).
- (4) Machine maintenance, stores, workshops, yards, waste.
- (5) Silt settlement pond maintenance, code of practice, monitoring maintenance records.

## 1.5 Environmental Policy Statement



### Environmental Policy Statement

Bord na Móna Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Móna Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and of the importance of Irish peatlands.

Bord na Móna Energy Limited recognises the importance of peatland conservation.

Bord na Móna Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of high environmental value.

Bord na Móna Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive manner.

Bord na Móna Energy Limited will establish an environmental management system specifically addressing the following impacts:

- Discharges to water
- Emissions to atmosphere
- Waste disposal
- Use of natural resources
- Noise, vibration, odour, dust and visual effects
- Natural environmental and eco-system

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Móna Energy Limited will continue research and development (R&D) into all aspects of its environmental impact.

This statement is published and is available at all locations within the section and its contents are brought to the attention of all employees.



## 2.0 SUMMARY INFORMATION

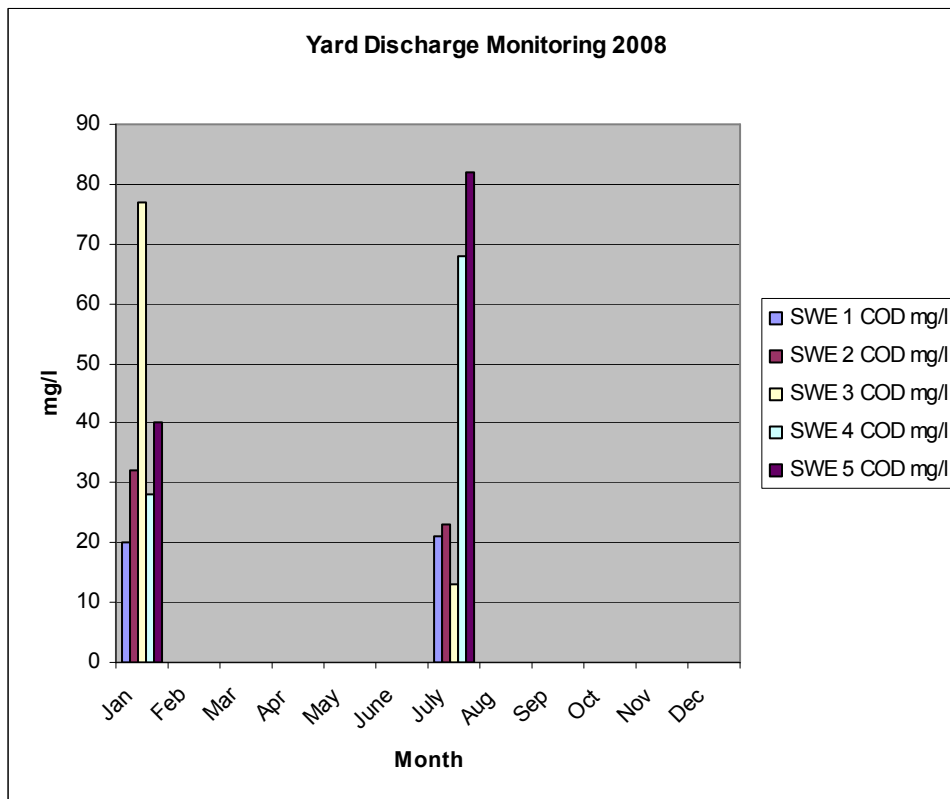
### 2.1 Emissions to Water Summary

#### 2.1.1 Silt Pond Emissions

In agreement with the EPA, all monitoring of silt ponds ceased in 2006.

#### 2.1.2 Yard Discharges

In agreement with the EPA Monthly yard monitoring was reduced to Bi-annual monitoring in 2007. Attached are the results of the monitoring of these oil-interceptors in 2008.



#### Graph 1 Summary Results from Monitoring of Workshop/Depot Surface Water Run-off

All oil traps are inspected regularly on a weekly basis as per the terms of the licence and they are maintained in good operating condition.

#### 2.1.3 Composite Sampler Report

In agreement with the EPA, all composite sampling ceased in 2006.

#### 2.1.4 Non Compliance's

N/A

## **2.2 Emissions to Air Summary**

### **2.2.1 Dust Monitoring**

Dust monitoring was not carried out in 2008 due to the cessation of Milled Peat Operations in 2003.

### **2.2.2 Non Compliances**

N/A

## **2.3 Wastes Arising**

Any wastes arising in the course of operations are brought to the two main workshop locations within the Oweninny Group for collection by the nominated licensed waste contractor. Systems are in place for the transport of both hazardous and non-hazardous wastes from various satellite locations to the two main collection points.

### **2.3.1 Hazardous Waste**

The quantities of hazardous waste generated and removed from or reused in the Oweninny Group are shown below in Table 1.

### **2.3.2 Non-Hazardous Waste**

The quantities of non-hazardous waste generated and removed from or disposed of in the Oweninny Group are shown below in Table 2.



### Waste Management Record (Hazardous)

Group : Oweninny. IPC Licence No.: P0505-01

| <i>WASTE DESCRIPTION</i>      | <i>EWC CODE</i> | <i>TONNES</i> | <i>NAME OF CONTRACTOR</i> | <i>NAME OF PERSON ULTIMATELY RESPONSIBLE</i> | <i>DESTINATION</i>                  | <i>DATE</i>        |
|-------------------------------|-----------------|---------------|---------------------------|--|-------------------------------------|--------------------|
| Asbestos Sheeting             | 17 06 01        | 7.98          | Delaney Building Ltd      | Enva Ireland Ltd                             | KTK Landfill, Kilcullen, Co Kildare | Feb 2008           |
| Contaminated soils            | 19 13 01        | 193.2         | Enva Ireland Ltd          | Enva Ireland Ltd                             | Portlaoise, Co Laois                | May & October 2008 |
| Parts washer waste            | 11 01 13        | 0.09          | Safety Kleen Ltd          | Safety Kleen Ltd                             | Tallaght, Co Dublin                 | January 2008       |
| Oily water from Tank Cleaning | 13 08 99        | 11.2          | Enva Ireland Ltd          | Enva Ireland Ltd                             | Portlaoise, Co Laois                | May/July 2008      |

#### DETAILS OF ANY REJECTED CONSIGNMENTS

|                          |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|
| No rejected consignments |  |  |  |  |  |  |
|--------------------------|--|--|--|--|--|--|

**Table 1 Hazardous Waste Quantities**



### Waste Management Record ( Non-Hazardous)

Group : Oweninny. IPC Licence No.: P0505-01

| WASTE DESCRIPTION               | EWC CODE | TONNES | NAME OF CONTRACTOR           | NAME OF PERSON ULTIMATELY RESPONSIBLE | DESTINATION                           | DATE                    |
|---------------------------------|----------|--------|------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| Silt                            | 01 01 02 | 6.19   | Bord na Móna                 | Bord na Móna                          | Spread on the bog                     | 2008                    |
| Skips and Wheelie Bins          | 20 03 01 | 1.62   | G & F Loftus Recycling       | G & F Loftus Recycling                | Ballina, Co Mayo                      | Bi-Monthly 2008         |
| Scrap Steel                     | 17 04 07 | 7.48   | McGrath Industrial Waste Ltd | McGrath Industrial Waste Ltd          | Ballina Landfill Killalla rd, Ballina | Feb/June 2008           |
| Scrap Steel                     | 17 04 07 | 48.57  | Hammond Lane                 | Hammond Lane                          | Athlone, Co Westmeath                 | Feb/April 2008          |
| Scrap Timber                    | 15 01 02 | 4.34   | McGrath Industrial Waste Ltd | McGrath Industrial Waste Ltd          | Ballina Landfill Killalla rd, Ballina | Oct 2008                |
| Construction & Demolition Waste | 17 01 01 | 431.86 | Barna waste Ltd              | Barna waste Ltd                       | Ballina Landfill Killalla rd, Ballina | Feb/March/May/June 2008 |
| Tyres                           | 16 01 03 | 7.44   | Crumb Rubber Ireland Ltd     | Crumb Rubber Ireland Ltd              | Dromiskin, Mooretown, Dundalk         | April 2008              |

**Table 2 Non-hazardous Waste Quantities**

## 2.4 Energy and Water Consumption

### Energy Consumption

Energy consumption for the Oweninny Group is shown below in Table 6 and covers the period from 1 January 2008 to 31 December 2008 for both fuels and electricity.

#### Energy Consumption

| <b>Licence: P0505-01</b> |                          |                        |                            |                                 |
|--------------------------|--------------------------|------------------------|----------------------------|---------------------------------|
| <b>Works: Oweninny</b>   |                          |                        |                            |                                 |
| <b>Units</b>             | <b>Diesel ( Litres )</b> | <b>Petrol (Litres)</b> | <b>Electricity (Units)</b> | <b>Peat Briquettes (Tonnes)</b> |
| <b>Totals</b>            | 4672                     | 0                      | 126633                     | 0                               |
| <b>MW Hours</b>          | 45                       |                        | 126                        | 0                               |
| <b>Total MW Hours</b>    | <b>171</b>               |                        |                            |                                 |

**Table 3 Energy Consumption**

### Water Consumption

Water is not used as part of our production process and is therefore not included in the table.

## 2.5 Environmental Incidents and Complaints

### Incidents

There were no environmental incidents during the period under review.

### Complaints

There were no complaints during the period under review.

| <b>Environmental Complaints</b>               | <b>Number of complaints</b> |
|---|-----------------------------|
| <b>Complaints received</b>                    | <b>0</b>                    |
| <b>Complaints requiring corrective action</b> |                             |
| <b>Categories of complaint</b>                |                             |
| <b>Odour</b>                                  |                             |
| <b>Noise</b>                                  |                             |
| <b>Water</b>                                  |                             |
| <b>Air</b>                                    |                             |
| <b>Procedural</b>                             |                             |
| <b>Miscellaneous</b>                          |                             |

**Table 4 Environmental Complaints**

### 3.0 MANAGEMENT OF THE ACTIVITY

#### 3.1 Environmental Management Programme Report 2008

Due to the cessation of milled peat production in 2003 the Environmental Management Programme has been completed..

#### 3.2 Environmental Management Programme Proposal for 2009

N/A

#### 3.3 Environmental Expenditure

Expenditure associated directly with environmental control and all other environmental activities associated with closure and captured in the accounting system for the Oweninny Group is presented below in Table 5. These figures relate to the period covered by the AER.

| Description                              | Cost (€)        |
|--|-----------------|
| Bog Rehabilitation and Silt Control      | 4761            |
| Clean Up, Waste disposal and Exit Costs. | 135,000         |
| EPA Fees                                 | 8518            |
|  |                 |
|  |                 |
| <b>Total</b>                             | <b>€148,279</b> |

**Table 5 Environmental Expenditure**

#### 4.0 Licence Specific Reports

##### 4.1 Surface Water Discharge Monitoring Location Programme Review

This is no longer applicable due to the cessation of operations in 2003.

##### 4.2 Bunding Programme

All fuel and oil tanks were de-contaminated by Enva Ltd in 2007 and decommissioned in 2008. Certificates of decommissioning by Enva Ltd, are retained on file.

##### 4.3 Boiler Combustion Efficiency

Two solid fuel boilers are used in Oweninny Works to supply heat to the workshop and office areas. They are both Danstoker solid fuel units, rated at 725kW, and are fuelled by briquettes. They normally operate during the months October to April, typically for nine to ten hours per day during the normal working week.

Due to inactivity at the Oweninny and Bangor neither of these boilers was used.

### 4.4 Resource Consumption Summary

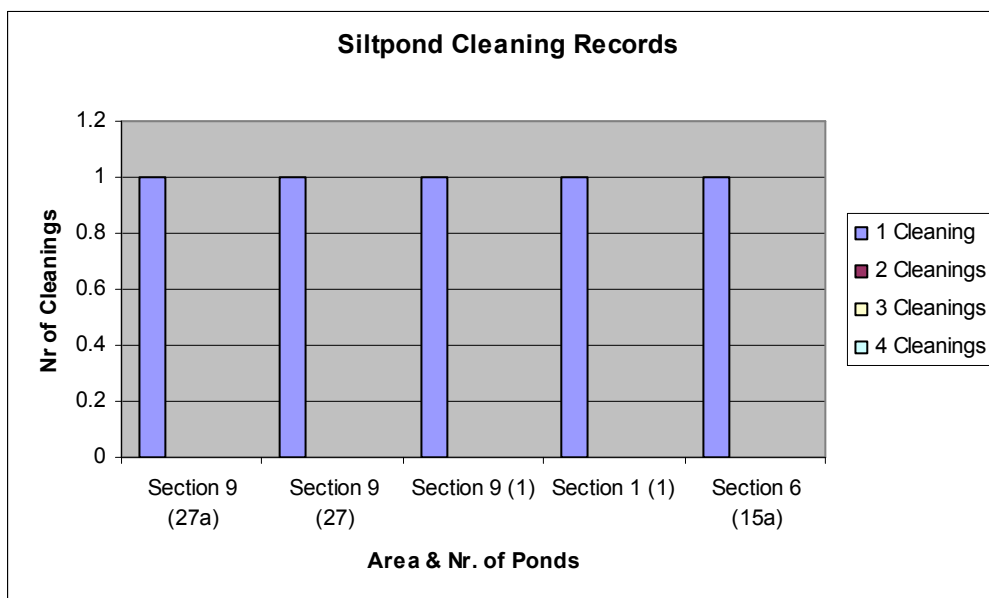
N/A

### 4.5 Report On De-Silting Programme

The summary de-silting report for 2008 is presented below in Table 6.

|                               |
|-------------------------------|
| <b>IPPC Licence: P0505-01</b> |
| <b>Works: Oweninny</b>        |

| Bog Area & No. of Ponds | 1 Cleaning | 2 Cleanings | 3 Cleanings | 4 Cleanings |
|-------------------------|------------|-------------|-------------|-------------|
| Section 9 (27a)         | 1          |             |             |             |
| Section 9 (27)          | 1          |             |             |             |
| Section 9 (1)           | 1          |             |             |             |
| Section 1 (1)           | 1          |             |             |             |
| Section 6 (15a)         | 1          |             |             |             |



**Table 6 Summary Pond Cleaning Information**

Only five silt ponds required cleaned during the period.

### 4.6 Bog Development and Operational Programme

No bog development was carried out during the period of the AER, as a result of the announcement of the closure of all existing peat-fired generating stations by 2005. Under these circumstances further development of the bogs in the Oweninny group will not be undertaken.

## 4.7 Bog Decommissioning & Rehabilitation Progress Report

### 4.7.1 BACKGROUND INFORMATION

Bord na Móna commenced peat production operations in NW Mayo in the late 1950s in response to the establishment of a peat-fired electricity generating station at Bellacorick by the ESB (Irish Electricity Supply Board).

Two main peat production areas were established by Bord na Móna to supply the station – one at Bellacorick adjacent to the peat-fired station and one at Bangor, located approximately 10km west of the ESB station. The two areas comprise the Oweninny Works. The total area in Bord na Móna ownership stands at approximately 6,500ha. Peat production at the site operated under IPC Licence Ref. 505, which was granted in 2000. Peat production ceased in October 2003 and since that time an extensive and comprehensive decommissioning and rehabilitation programme has been carried out in compliance with Condition 10 of IPC Licence Ref. 505.

The decommissioning of the Group of Bogs commenced in 2003 and has continued over the past 4 years.

A rehabilitation plan for the Oweninny Boglands was legally required under Condition of IPC Licensing. An outline is provided here of:

- Development of the rehabilitation plan (1996 to 2003)
- Implementation of the rehabilitation plan (2001 to 2007)
- Observations and conclusions from work completed to date

#### 2008

- **Ongoing Monitoring (2008)**

The Oweninny boglands and the rehabilitation of this extensive area provide a unique case study in Ireland, and also internationally. This is the largest rehabilitation programme undertaken in Europe to date covering over 6,500 ha.

### 4.7.2 DEVELOPMENT OF THE REHABILITATION PLAN

The development of the rehabilitation plan commenced in 1996 (through postgraduate research work conducted at UCD) with identification of the key issues for rehabilitation of industrial cutaway Atlantic blanket bog. Following from scientific study and consultation with a range of interested parties and statutory bodies, a rehabilitation plan was developed to promote naturalisation of Oweninny bogland: a brief overview of the scientific background to the plan is presented here while a comprehensive overview is provided in the *Rehabilitation Plan* (June 2003).

#### 4.7.2.1 Industrial cutaway Atlantic blanket bog – habitat conditions and future development

The Oweninny Works presented a range of habitat types and/or bog conditions, including shallow and deep peat areas (less than 1m peat depth), gravel hills, relatively intact bog areas (drained but never fully developed for peat production), and bog remnants. The gravel hills and undulating contours are a common feature throughout the area and posed a number of environmental challenges in terms of peat stability and revegetation.



The vegetation survey of the cutaway bog provided (a) an outline of the plant communities. The main observations from the initial studies indicated that:

- (i) Vegetation established relatively soon after peat fields are taken out of production (generally within one year).
  - (ii) The most extensive vegetation type establishing is poor fen dominated by soft rush
  - (iii) Where the water-table is at and/or above the cutaway surface and conditions are largely ombrotrophic, peatmosses (*Sphagnum* species) establish. In these areas, even on shallow peat, peat-forming communities occur spontaneously.
  - (iv) Vegetation was slow to establish on gravel areas and on sloping areas, and this led to unstable shallow peat with potential to erode.
  - (v) Where small pools and ridges were created on gravel and peat slopes, poor fen establishes.
- These observations illustrated the range of conditions at the Oweninny Works and allowed for the development of a set of criteria on which successful rehabilitation could be measured and also the basis for development of rehabilitation tools.

#### 4.7.2.2 Criteria defining successful rehabilitation and development of rehabilitation tools

The aim of rehabilitation of the Oweninny Works is to ensure the stabilisation of the peat production area, while encouraging the area to blend with the surrounding Atlantic blanket bog landscape (long-term sustainability aim).

Rehabilitation of the cutaway is considered successful when the remaining peat of the cutaway fields has been stabilised, which will involve the establishment of a vegetation cover. Revegetation is therefore the primary objective of the rehabilitation programme. While revegetation occurs with minimal active rehabilitation management on *flat* fields, rewetting of production areas has resulted in more extensive development of replacement peat-forming communities. Therefore, the secondary rehabilitation objective for the cutaway bog is to promote the establishment of peat-forming communities, where possible. **N.B.** Blocking of field drains also increased the retention time of water on the bog and reduced scouring effects in field drains. This is significant to mitigate against mobile peat entering draining streams and rivers.

The approach required initial active rehabilitation work (blocking drains, etc.) followed by monitoring of effectiveness of this work. These objectives were achieved by application of basic rehabilitation management tools:

**Rewetting:** Blocking drains and preventing water-run-off by means of peat ridges encourages the spread of typical peatland species such as bog cotton, *Eriophorum angustifolium*, and ultimately the spread of *Sphagnum*.

**Ploughing:** disturbance and ploughing of gravel and/or peat-covered slopes stabilises peat and increases vegetation establishment in areas that were otherwise slow to colonise. This rehabilitation measure was appropriate for up to 20% of the Oweninny boglands.

#### 4.7.2.3 Consultation

Following a comprehensive consultation process a final draft of the rehabilitation plan (June 2003) was submitted to the EPA and consultees. The consultees included: National Parks and Wildlife Service (NPWS, formerly Dúchas), North West Regional Fisheries Board (NWRFB), An Taisce, IPCC, Mayo Co. Co., local Bangor residents and Coillte. The plan included maps of the areas involved and outlined the methods that would be employed in the event of a large wind farm being established on the Bellacorick site. The concerns of the consultees were taken into consideration and incorporated into the

rehabilitation plan. A comprehensive river remediation project funded by Bord na Móna was designed by the *NWRFB* (see later).

### **4.7.3 IMPLEMENTATION OF THE REHABILITATION PLAN**

#### **4.7.3.1 Practical Rehabilitation**

Initial small-scale rehabilitation trials were established between 1996 and 2002, and large-scale rehabilitation commenced in 2003 with the cessation of peat production at the Oweninny Works. Each production unit of bog was rehabilitated according to site-specific condition and features. An overview of the work days spent in each area was recorded.

The rehabilitation work largely focussed on buffer zones surrounding the area in Bord na Móna ownership. This complemented the river remediation plan in terms of slowing the movement of water into ponds and provided replacement settlement areas for any peat washed into hollows and low points.

#### OAE1: Bellacorick

##### **D6 Komatsu on gravel hills and cutaway areas**

A Komatsu D6 dozer was purchased in April 2002. This dozer was dedicated to rehabilitation of the cutaway bog at Oweninny and during the period April – December 2003, a considerable amount of rehabilitation work was completed. All of the available gravel area at the Bellacorick site was rehabilitated by Sept. 2003. This accounts for up to 700ha of cutaway bog. Further rehabilitation of gravel areas and bog-covered slopes to mitigate against peat erosion was carried out up until May 2004. This accounted for a further 100-150ha.

A total of 315 machine operator days was spent on the rehabilitation of gravel areas.

##### **Rehabilitation of shallow peat and deep peat cutaway areas**

This involved an intensive programme of blocking field drains and sculpting the surface of the former industrial bog area by dozer machines and excavators. Up to 95% of the rehabilitation was completed by January 2005. The remainder was completed by September 2006.

A total of 600 machine operator days was spent on the rehabilitation at Bellacorick; this involved 4 dozers at peak activity with additional excavators as part of the technical support.

##### **Rehabilitation of new development bog**

Blocking field drains on O'Boyle's Bog (100ha of deep drained new development bog) was completed by mid-February 04. This is part of a larger 350ha unit that will progressively re-establish as a significant Atlantic blanket bog complex. Other work on development bog areas was completed on a total of 388ha.

#### OAE2: Bangor

The rehabilitation programme at Bangor was 100% completed between January and March 2005. *N.B.* Part of the Bangor works is now covered by Waste Licence (199-1) and taken out of the rehabilitation plan for the Oweninny Works. A draft rehabilitation plan, *Rehabilitation Plan for the Srahmore Peat*

*Deposition Area and Associated Facilities*, was circulated to consultees in November 2004 and the final draft was submitted to the EPA in February 2005. The EPA formally accepted the plan in March 2005.

A total of 141 machine operator days was spent on the rehabilitation at Bangor; this involved 4 dozers at peak activity with additional excavators as part of the technical support.

#### 4.7.3.2 Ongoing Consultations

As part of the implementation of the rehabilitation programme, the consultees involved in developing the overall rehabilitation plan were invited to inspect the progress of the activity. This involved a series of site visits and communications including EPA inspections between 2003 and 2007:

|           |   |
|-----------|---|
| Mar. 2004 | Consultation letter to all Bord na Móna employees   |
| Jun. 2004 | Bangor local residents  |
| Oct. 2004 | Regional EPA Inspector Liam O'Suilleabhain<br><i>NPWS</i> : Regional Ecologist J. Fossitt, District Conservation Officer S. Callaghan; Wildlife Rangers M O'Donnell; J Kilroy; C Clotworthy (NW Mayo) |
| Nov. 2004 | Public meeting in Bangor  |
| Oct. 2005 | <i>NPWS</i> : Scientific staff J. Ryan; C. Douglas; A O'Connor  |
| Oct. 2006 | <i>NPWS</i> : Deputy Regional Manager Denis Strong and Area Manager Michael Sweeney   |
| Apr. 2007 | Consultation with Michael Hughes, NWRFB (Oweninny catchment)  |
| Jun. 2007 | Consultation with Michael Lennon, NWRFB (Palmerstown catchment)   |

The main outcome of each consultation was satisfaction with the progress and outcomes of the rehabilitation and in some instances tailoring of the rehabilitation to accommodate adjacent land owners.

#### 4.7.3.3 Remediation of watercourses

Anecdotal reports from Fishery Officers and local private anglers indicate a high water quality in the Oweninny and Owenmore Rivers; and overall good angling conditions. This result is a combination of the cessation of milling on the Bord na Móna production areas and the rehabilitation carried out on the site.

#### 4.7.3.4 NWRFB baseline assessment and monitoring of catchments

Bord na Móna commissioned Dr. J. Caffrey of the Central Fisheries Board to carry out an independent assessment of the watercourses within the Oweninny holdings. Subsequent to an initial baseline report, a condition assessment plan for tributaries of, and the Oweninny and Owenmore Rivers was agreed between the *NWRFB* and Bord na Móna. The work is funded by Bord na Móna and was initiated in spring 2004, with work continuing into 2007.

A full report to include all the results of monitoring and assessment work will be presented to Bord na Móna by the end of 2007.

#### 4.7.3.5 Rehabilitation of silt ponds

A programme of work relating to rehabilitation of selected silt ponds was outlined and submitted to the EPA and NWRFB, and the work programme commenced in April 2007. The main focus of this work was lifting of weirs on silt ponds adjacent public roads with some dozing of ponds: this is viewed as necessary to remove Health and Safety hazards. This programme of work and methodology was agreed with *NWRFB* Officers.

All ponds at Bangor have been rehabilitated completely (completed June 2007). This involved complete dozing and closure of ponds along public access routes and re-alignment of drainage channels. Work is ongoing at Bellacorick and will be completed by November 2007: the remaining work involves final cleaning of ponds on streams and lifting of weirs to allow the stream beds to naturalise. This is accepted

as the most sustainable long-term management option for silt ponds that were installed along streams, namely the River Muing, Ballymonnelly River, Shanvolahan and Owenmore tributaries.

Site meetings were held with Fishery Officers Michael Hughes (Oweninny catchment) and Michael Lennon (Palmerstown catchment) in April and June 2007 to discuss the long term management of silt ponds on site. This will form part of long-term management of the Oweninny Works, and will be developed as such following monitoring and evaluation of the recovery of the biological aspects of the site.

#### **4.7.4 OBSERVATIONS AND CONCLUSIONS FROM WORK COMPLETED TO DATE**

The rehabilitation work has proven successful in slowing the movement of water on site and containing any peat within the bog area. Rewetting of the bog will encourage the establishment of typical peatland plants and accelerate the rate of revegetation of the industrial cutaway bog. There has already been a significant level of revegetation of cutaway areas and former production areas.

A number of pools and shallow water bodies have also been created and these help to mitigate against peat run-off by extending the area for peat settlement before entering existing silt ponds. These open water areas also provide alternative habitats invertebrates, and also for wildfowl and water birds. A number of birds are utilising these areas and these will be monitored in line with the *NPWS* local wildlife rangers.

The local fisheries are also showing good signs of recovery.

#### **4.7.5 OUTSTANDING ISSUES – FUTURE MANAGEMENT OF THE SITE**

The rehabilitation programme has been implemented as outlined in the *Rehabilitation Plan* (2003). This involved a comprehensive work programme and most of the greater part of the work completed by March 2005.

Monitoring of the site shows a steady recovery of the site through natural colonisation, stabilisation of the soils and overall high quality of water draining the site and entering salmonid streams.

There will be ongoing monitoring of the site carried out by Bord na Móna. This forms part of general land management and maintenance.

Other work completed in 2007:

- Dozing of railway beds to facilitate ease of access and potential development of walking routes through the Bord na Móna lands. This issue has already been raised with Mayo County Manager.
- Completion of decommissioning programme - final clean-up at workshops

There are some outstanding issues:

- The *NWRFB* will be submitting a report to Bord na Móna outlining future management of the watercourses with the Oweninny Works. The outcome of this report will be determined through ongoing consultation between Bord na Móna and the *NWRFB* and is viewed as part of long term land management practice.

- The *NPWS* are satisfied with the work carried out to date and will continue to monitor recovery of the system. Future SAC management plans developed for the Moy SAC and Bellacorrick Flush SAC will be developed with ongoing consultation with Bord na Móna.
- An area of soil contamination was identified during an internal audit of the Bangor workshop and yard. This related to oils leaking from the tippler. To date 193 tonnes of contaminated soils were excavated and removed from the site by Enva Ltd.

In addition, the tippler structure and surrounding clean soils were excavated and disposed of as clean Construction and Demolition waste. This was to facilitate the further excavation and removal of additional contaminated soils. The areas excavated has since filled with rainwater which has been tested and is clear of Diesel Range Organics, and once weather conditions are more favourable, this water will be discharged from the site through the oil interceptor. This will allow further sampling of the soils in this area to establish if there are further contaminated soils that require removal.

It is proposed to carry out this further decontamination and monitoring regime in the coming months, when more favourable weather conditions prevail.

## Work Completed 2008

The site was visited at monthly intervals to monitor revegetation and stabilisation of decommissioned settlement ponds. The site is continuing to recover, albeit slowly. This is a consequence of nutrient poor peat soils. Nonetheless, the species colonising are typical peatland plants which is favourable in terms of long term success of the rehabilitation. Further consultation was carried out with members of the NPWS, NWRFB and local community groups. Furthermore a delegation of international scientists visited the site in June 2008, along with members of local, regional and national staff of NPWS. All comments in relation to the recovery of the site were favourable.

The report by the NWRFB has not been submitted yet. It is expected to be completed in 2009. There was also a request from Crossmolina Community Development Group to open up walkways through the Oweninny Boglands. This will be considered following consultation with Mayo County Council and NPWS.

### *Consultation (ongoing)*

|           |  |
|-----------|--|
| Feb. 2008 | On-site meetings with Derek Mc Loughlin and Michael Lennon (NWRFB)   |
| Apr. 2008 | Presentation to Shell PMC re: outcome of rehabilitation  |
| June 2008 | Visit to the Oweninny Boglands by 50 delegates of International Peat Congress 2008; the group comprised ecologist, hydrologists and industry representation. |
| Nov. 2008 | Meeting with local community representatives from Crossmolina re: development of walkways through cutaway bogs.  |

### Work Programme 2009:

- Continue monthly visits to the site to monitor rehabilitation
- Ongoing consultation with NPWS in relation to future management
- A bird survey of OAE1 and OAE2 will be carried out in each of the four seasons. Alec Copland of BirdWatch Ireland has been contracted to carry out the survey.
- Ongoing consultation with all other consultees.
- Decontaminate and close out the contaminated soils issue in Bangor workshop.

## 4.8 Silt Pond Up Grade Programme Report

Due to inactivity at the site since 2005, this programme of work is completed.

## 5.0 Summary

Bord Na Móna Energy Limited, Oweninny Group has completed the decommissioning of all operations in accordance with Condition 10.1 of the IPPC Licence.

This is Bord na Móna Oweninny Groups' eight Annual Environmental Report and the seventh AER covering a full calendar year.

Significant effort and resources have been applied during the year to comply with Condition 10.1 of the IPPC Licence in relation to decommissioning and rehabilitation. This work continued into 2008, and included all recommendations highlighted as part of the Environmental Exit Audit carried out in July 2007.

The only outstanding issue preventing the surrender of the IPPC licence is the decontamination of the contaminated soils surrounding the tippler in Bangor, which it is hoped will be completed this year. Once this has been completed to the satisfaction of the Agency, we will be applying to the EPA for the surrender of this licence.

Bog rehabilitation techniques appropriate to the site and surrounding systems have been developed over the last number of years and were applied extensively to cutaway areas in the course of the year.

We believe our overall performance in complying with the licence throughout the course of the year was good.

Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management on the River Barrow.



Appendix 1