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PLANNING, MONITORING & REVIEW OF RENEWABLE ENERGY PROJECTS

Quarterly Review Northern Ireland
September - November 2008

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PLANNING, MONITORING & REVIEW OF ENEWABLE ENERGY PROJECTS: QUARTERLY REVIEW NORTHERN IRELAND

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Executive Summary

The purpose of this report is to provide a summary of the information collected in the Planning, Monitoring and Review of Renewable Energy projects database, in Northern Ireland, for the period September 2008 - November 2008.

During the quarter September 2008 - November 2008, the monitoring programme has not identified any new planning applications being submitted, refused or approved and there have been no appeals decided.

At the end of November 2008, 35 renewable energy projects with a combined installed capacity of an estimated 219MW have been recorded as operational in Northern Ireland. A total of 51 renewable energy projects are currently recorded in the monitoring programme as having been submitted for determination. The estimated installed capacity of these projects is 1164MW.

A total of 22 renewable energy projects in Northern Ireland are currently recorded as having been granted planning approval but have not yet begun generating electricity. This equates to an estimated installed capacity of 205MW.

With an installed capacity of 219MW, Northern Ireland has the lowest operational installed capacity of renewable energy of the home nations. Scotland has the highest operational renewable energy capacity of the home nations with an installed capacity of 2087MW the majority (80%) of which is from Wind Onshore. England has an operational installed capacity of 1690MW spread more evenly amongst technologies with significant contributions from Landfill Gas (31%), Wind Offshore (20%), Wind Onshore (29%) and Municipal and Industrial Waste (13%). Wales has an operational installed capacity of 410MW the majority (75%) of which is from Wind Onshore.

Between 1999 and 2007, the number of renewable energy related planning applications submitted in Northern Ireland has increased dramatically, rising from 1 submission in 1999 to 23 in 2005 and 21 in 2006. In 2007 only 5 planning applications were submitted, all of which were for Wind Onshore projects, and there has only been one submission so far in 2008 which was for a Biomass scheme. The number of planning applications approved has risen steadily from no approvals in 2002 to a peak of 8 approvals in 2007 although no approvals have been recorded in 2008 to date. Only 2 refusals for renewable planning applications have been recorded since the monitoring programme began, both for Wind Onshore schemes.

The contribution of Wind Onshore has become increasingly important to the growth of overall operational renewable energy in Northern Ireland, rising from 30MW in 1998 to 194MW in November 2008. However, the number of Wind Onshore applications have declined since 2006 with none yet submitted in 2008.

If all projects with approval are built and commissioned the installed capacity in Northern Ireland will increase from 219MW to 424MW.

If half the submitted planning applications were approved, built and commissioned, and all the approved applications are built and commissioned, the installed renewables capacity in Northern Ireland would increase by 787MW to 1006MW.

Contents

1. Introduction

In March 2006, a collaboration of Entec UK Ltd (Entec) and Imass Ltd (Imass) was commissioned by AEA Energy and Environment (AEAE&E), on behalf of the Department of Trade and Industry, to monitor and review the progress of renewable energy projects through the Town and Country Planning system. The aim of the project is to collate and maintain a database of accurate information for every proposed renewable energy development, with a capacity greater than 10kW in the UK, and to provide analysis and interpretation of the data to establish any trends across each country and the UK. The project will identify trends or key planning issues associated with the determination and commissioning of renewable energy projects and will ultimately be used to help assess the UKs progress towards the 2010 renewable generation targets.

The monitoring programme has now been running since 1999, and was previously undertaken by Land Use Consultants. Until the end of December 2002, the research was undertaken by contacting a sample of local authorities and developers that were involved in determining or promoting renewable energy applications in the UK. Since January 2003, the programme was extended so that as far as possible, all local authorities are contacted once every quarter along with a minimum of 50 renewable energy developers.

The results are reported monthly in database updates which are held by AEAE&E. A summary of the results is also incorporated in four quarterly reports covering England, Scotland, Wales and Northern Ireland. This report provides a quarterly progress review based on planning updates of renewable energy projects in Northern Ireland for the period September 2008 to November 2008.

The information provided in this report is based solely on the information held in the programme monitoring database. Whilst the project contributors have made every effort to ensure this database is accurate and up to date, they do not accept responsibility for any inaccuracies in the data, which is ultimately derived from third-party sources.

2. Overview of Progress

2.1 Headline figures September 2008 to November 2008

The monitoring programme has identified that no planning applications have been submitted in Northern Ireland during the period.

The monitoring programme has identified that no planning applications in Northern Ireland were approved during the period.

The monitoring programme has identified that no planning applications in Northern Ireland were refused during the period.

The monitoring programme has identified that no planning appeals in Northern Ireland were allowed during the period.

The monitoring programme has identified that no planning appeals in Northern Ireland were dismissed during the period.

The monitoring programme did not identify any significant planning events in Northern Ireland during the quarter.

At the end of November 2008, 35 projects have been identified through the monitoring programme as operational renewable energy projects in Northern Ireland. The total installed capacity of these projects is 219MW.

2.2 Planning

This section provides a breakdown of the number and installed generation capacity of schemes (by technology type) that are in the planning system, and their current status.

A total of 51 renewable energy projects are currently recorded in the monitoring programme as submitted for determination in Northern Ireland. The estimated installed capacity of these projects is 1164MW.

The pie charts below illustrate a breakdown of these applications by technology type. Figure 2.1 provides a breakdown by number of projects, and Figure 2.2 provides a breakdown by installed capacity.

Figure 2.1 Applications under consideration by technology type (number of applications)

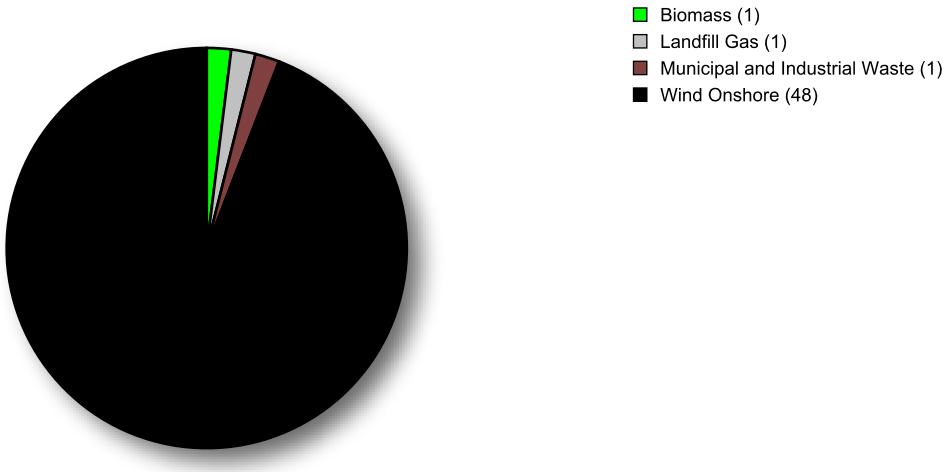
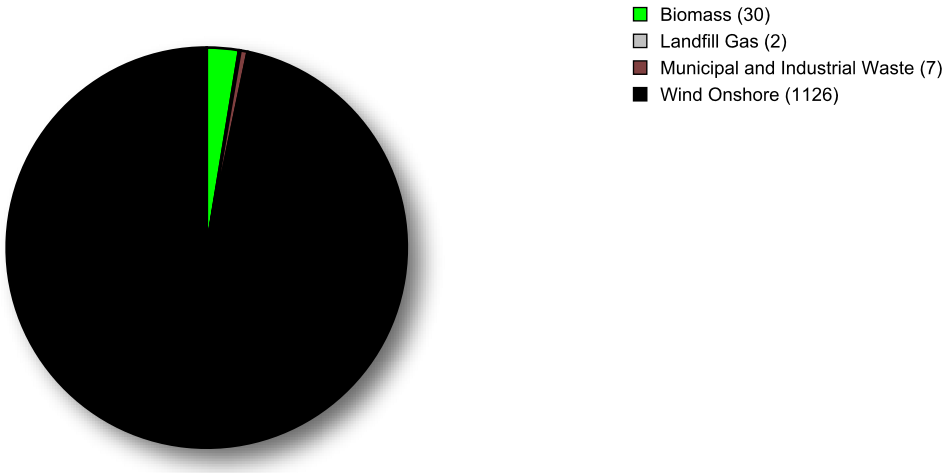


Figure 2.2 Applications under consideration by technology type (installed capacity, MW)



The largest number of applications currently submitted in the planning system is for Wind Onshore projects (48 applications). The greatest potential, in terms of installed capacity, is offered by Wind Onshore (1126MW).

Applications for Wind Onshore schemes account for 94% of all undetermined planning applications within Northern Ireland and 97% of installed capacity. Although submissions in Northern Ireland are dominated by Wind Onshore, there is some potential offered by other technologies, in particular the Rose Energy Biomass Plant scheme in Glenavy near Lisburn has an estimated installed capacity of 30MW is currently under consideration. The Tunes Plateau Offshore Wind scheme (estimated installed capacity of 240MW) to be located 5km off Portstewart, Co. Londonderry is currently at Scoping stage. This single project would comprise 17% (assuming no other changes) of the installed capacity of applications under consideration when an application is made.

It should be noted, that installed capacity values should be viewed with some caution, as installed capacity of wind projects, onshore and offshore, would be expected to offer a lower

generation output relative to the other technologies presented.

Figure 2.3 provides a breakdown of the status of all planning applications recorded in the monitoring programme by technology type. The bar chart shows combined installed capacities (MW).

Figure 2.3 Status of all planning applications by technology type (installed capacity, MW)

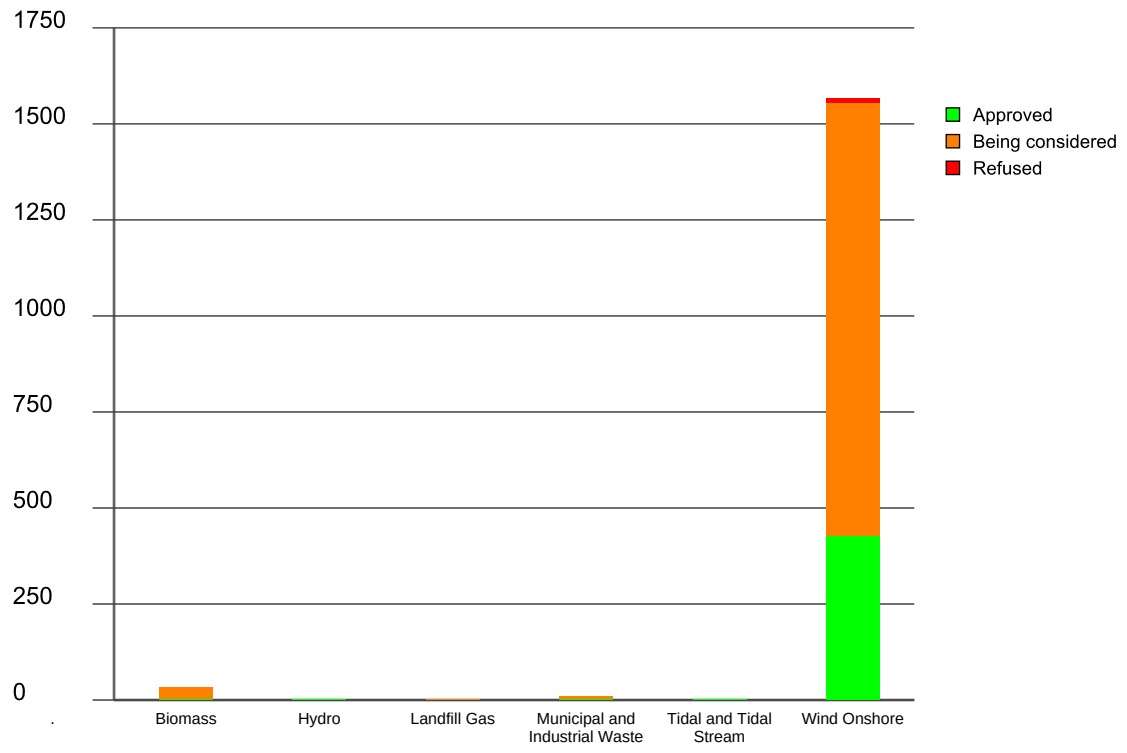


Figure 2.3 shows that Wind Onshore is currently the dominant form of renewable technology in Northern Ireland in terms of approved projects, representing some 98% of approved installed capacity. The prevalence of Wind Onshore as Northern Ireland's major renewable energy source is likely to continue in the foreseeable future with planning applications currently under consideration totalling a further 1126MW installed capacity.

2.3 Post Determination

This section provides a breakdown of the number and installed generation capacity of schemes (by technology type) that have been granted planning approval but have not yet become operational.

A total of 22 renewable energy projects in Northern Ireland are currently recorded as having been granted planning approval but have not yet begun generating electricity. This equates to an estimated installed capacity of 205MW.

The pie charts below show a breakdown of these projects by technology type. Figure 2.4

provides a breakdown by number of projects, and Figure 2.5 provides a breakdown by installed capacity.

Figure 2.4 Approved but not operational projects by technology type (number of projects)

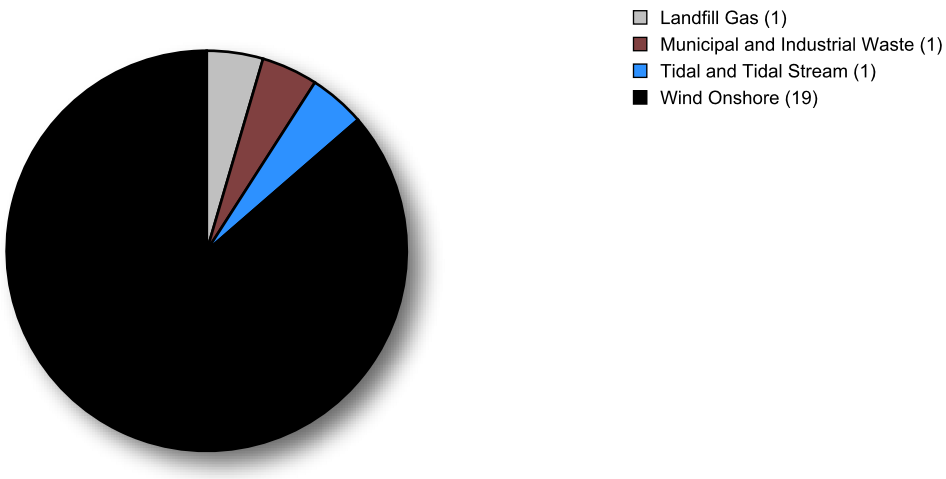
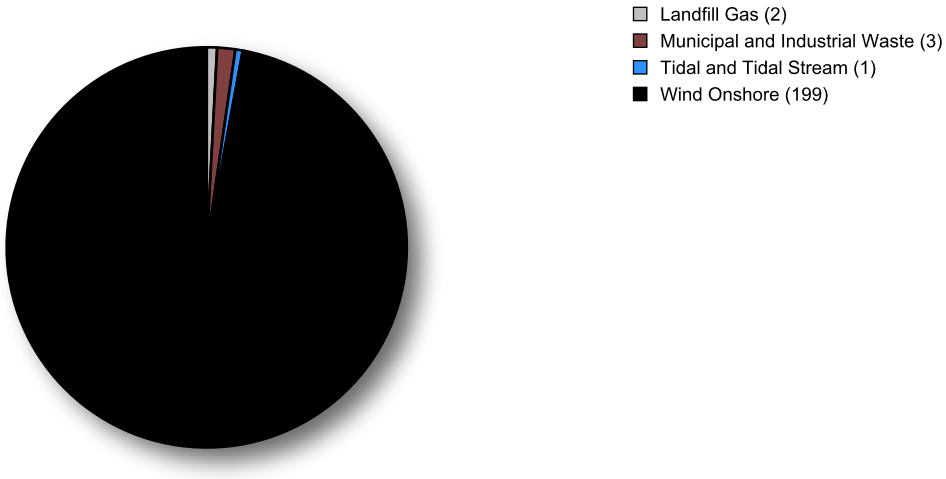


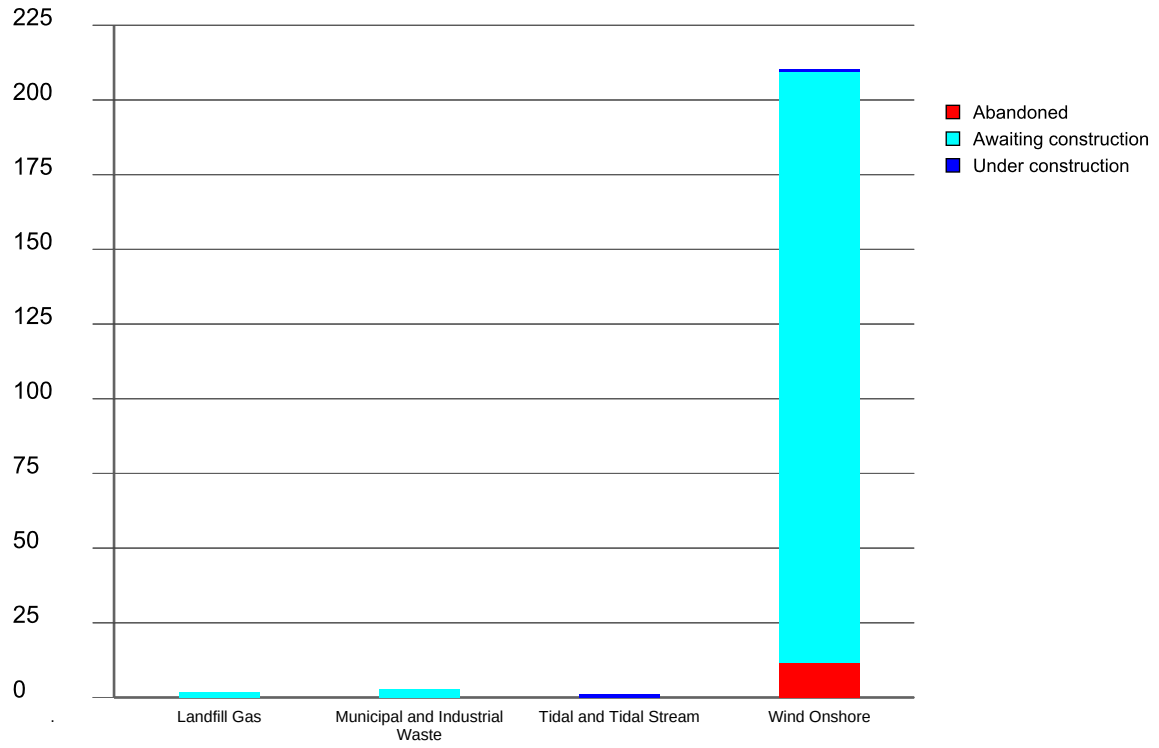
Figure 2.5 Approved but not operational projects by technology type (installed capacity, MW)



Almost all of the 205MW estimated installed capacity of approved non-operational projects is to be provided by Wind Onshore schemes, the largest being a proposal with an installed capacity of 37MW in Dunloy, Co. Antrim. Only three non-Wind Onshore projects with consent are not yet operational: a Landfill Gas scheme (2MW capacity); a Municipal and Industrial Waste scheme (3MW capacity); and one Tidal project (1MW capacity).

Figure 2.6 below shows a breakdown of the status of approved projects by technology type. The chart shows combined installed capacities (MW).

Figure 2.6 Approved but not operational project status by technology type (installed capacity, MW)



Of the 22 non-operational projects that have been granted planning permission, only 2 are currently under construction which includes the SeaGen Tidal scheme (1MW capacity) and a single onshore wind turbine with an installed capacity of 0.85MW.

However this information should be viewed with some caution, as it is often difficult to obtain project information following planning approval but prior to electrical commissioning.

One Wind Onshore scheme with consent has been abandoned. The scheme, which was to be located at Bessy Bell Moutain, 5km south of Newtownstewart, was to comprise 9 wind turbines with a total installed capacity of around 12MW. A new proposal on the site for 6 larger wind turbines has been subsequently approved and recently (October 2008) become operational.

Of the projects identified as having approval but not becoming operational or abandoned, 10 (50MW installed capacity) have had planning approval for over two years including a Landfill Gas scheme (2 MW) determined in 2001, a Municipal and Industrial scheme (3MW) determined in 2001 and 8 Wind Onshore schemes (totalling 37MW).

The majority of approved non-operational projects are Wind Onshore with a total installed capacity of 199MW. According to a report commissioned for the DTI in 2005 *[1]* the key causes of delay for Wind Onshore projects following approval were:

- Negotiation of connection and Wayleave agreements with landowners;
- Delays due to contract negotiations with suppliers (with procurement times for

wind turbines in the order of 9-12 months being not uncommon);
- Negotiating planning agreements and discharging planning conditions.

According to the report, in November 2005 the average time taken for a Wind Onshore project to become operational following consent in the UK (considering schemes approved since August 2000) was 20 months. Of the 16 operational Wind Onshore projects currently recorded in the database the average time from approval to commissioning was 18 months.

This demonstrates that the development of renewable energy projects in Northern Ireland is not just dependent on the planning system. An increase in the rate at which renewable energy projects are constructed and commissioned will also play a part. For example if all currently approved projects were constructed and commissioned the nominal installed capacity of renewable energy produced in Northern Ireland would increase from 219MW to 424MW.

[1] Land Use Consultants Barrier to commissioning renewable energy projects report November 2005

2.4 Operational

This section provides a breakdown of the number and installed generation capacity of renewable energy schemes (by technology type) that are operational in Northern Ireland.

A total of 35 projects have been identified through the monitoring programme as operational renewable energy projects in Northern Ireland. The total installed capacity of these projects is estimated as 219MW.

The pie charts below show a breakdown of these projects by technology type. Figure 2.7 provides a breakdown by number of projects, and Figure 2.8 provides a breakdown by installed capacity.

Figure 2.7 Operational projects by technology band (number of projects)

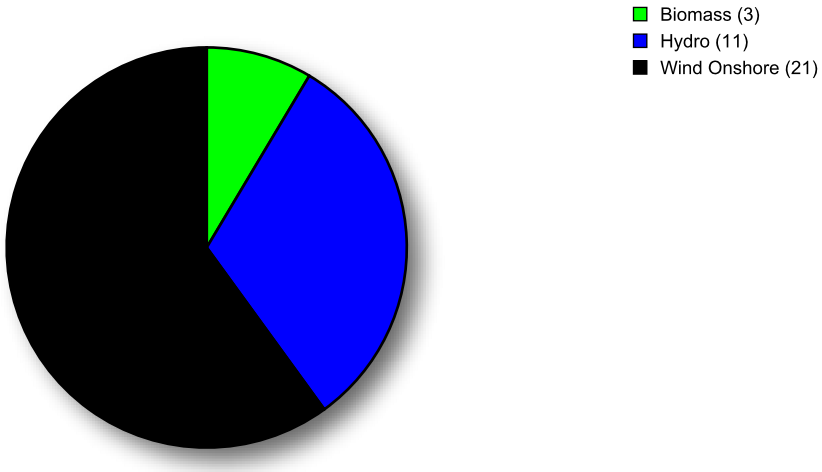
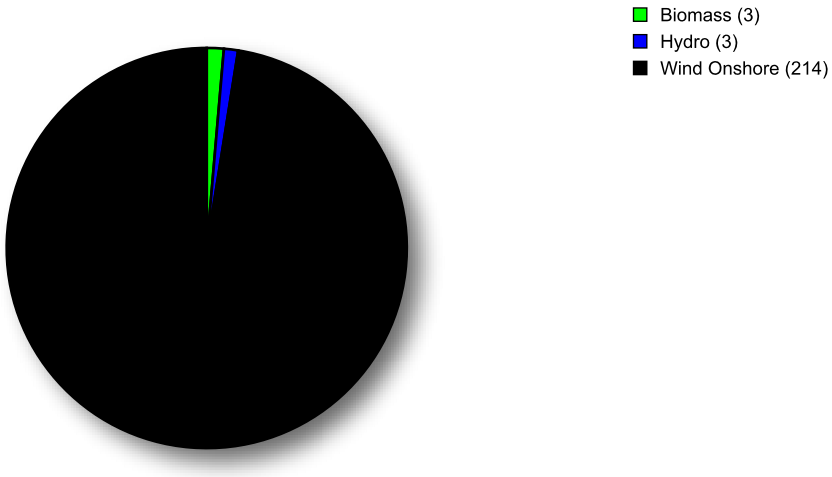


Figure 2.8 Operational projects by technology band (installed capacity, MW)



The technology type that provides the largest contribution to operational renewable energy projects, both in terms of number of projects and operational installed capacity is Wind Onshore. 60% of all renewable energy projects operating in Northern Ireland are Wind Onshore, contributing 97% in terms of operational installed capacity. Hydro and Biomass projects each contribute just over 1% of the total operational installed capacity.

However, it should be noted (as previously) that installed capacity values should be viewed with caution; if the declared net capacity (DNC) were used, the relative contribution of wind would be reduced compared to the thermal and hydro technologies.

Projects which reach the end of their operational life will be removed from the monitoring database on notification of decommissioning (or re-powering).

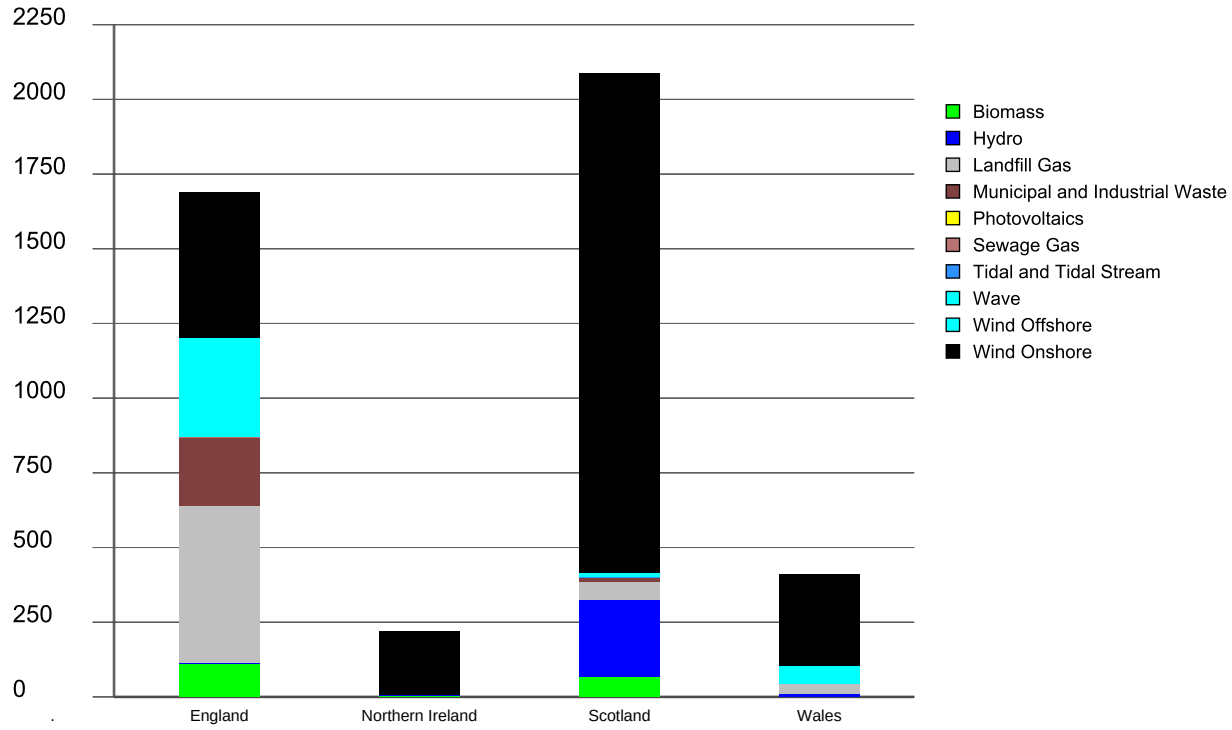
3. The UK Context

3.1 The UK Context

This section provides a brief comparison of the renewable operating capacity across the UK.

Figure 3.1 provides a comparison of the operational renewable energy projects in the UK by technology type and country.

Figure 3.1 Operational projects by technology type and country (installed capacity, MW)



With an installed capacity of 219MW, Northern Ireland continues to have the lowest amount of operational renewable energy of the home nations. With 2087MW of installed capacity Scotland has the highest operational capacity, followed by England with 1690MW and Wales with 410MW. In terms of installed capacity, renewable energy generation is dominated by Wind Onshore in Northern Ireland (98%), Scotland (80%) and Wales (75%). Renewable energy generation in England is more evenly distributed across technologies with the main contributions being made by Landfill Gas (31%), Municipal and Industrial Waste (13%), Wind Offshore (20%) and Wind Onshore (29%).

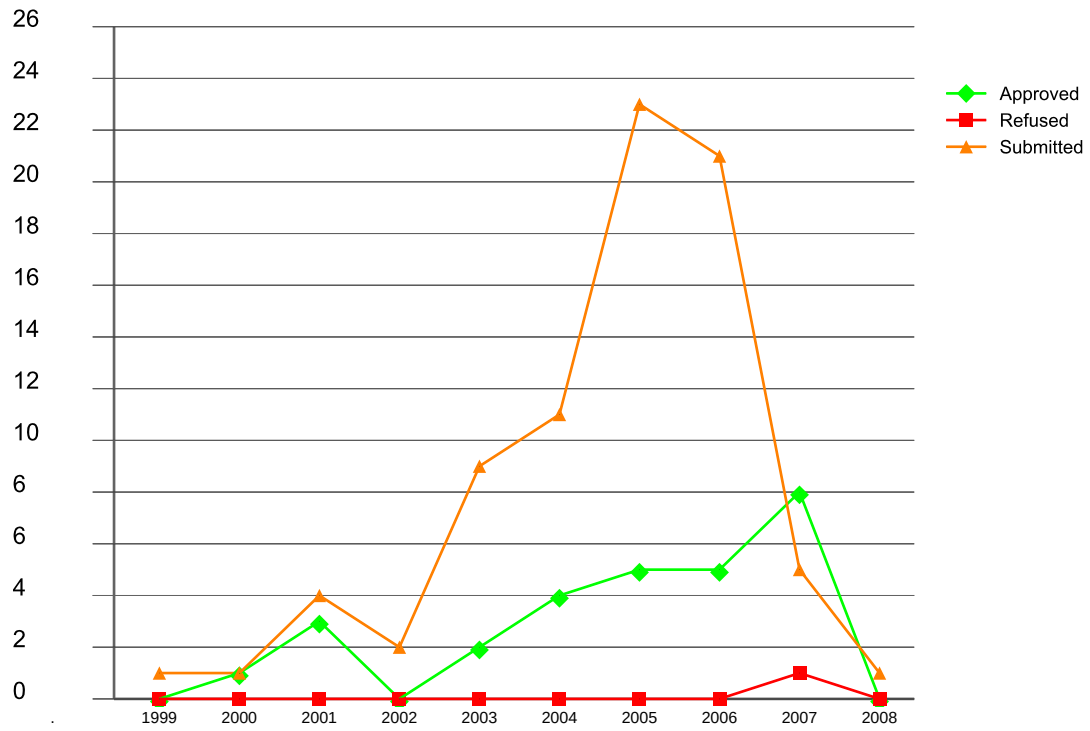
4. Key Issues Review

This section provides a review of the progress of renewable technologies through the planning system. Data is provided for the number of planning applications submitted and determined each year since the programme commenced in 1999. The cumulative installed capacity of all schemes becoming operational in a particular year is also considered.

The information presented has been collected from the commencement of the monitoring programme in 1999. Information provided for the current year includes all data collected to the end of this quarter (end of November 2008).

Figure 4.1 provides a yearly breakdown of the number of planning applications submitted and determined (approved or refused). Note that the date of submission and determination was not recorded for all applications (prior to 2006), therefore some projects could not be included in the figure below.

Figure 4.1 Number of applications submitted, refused and approved since 1999

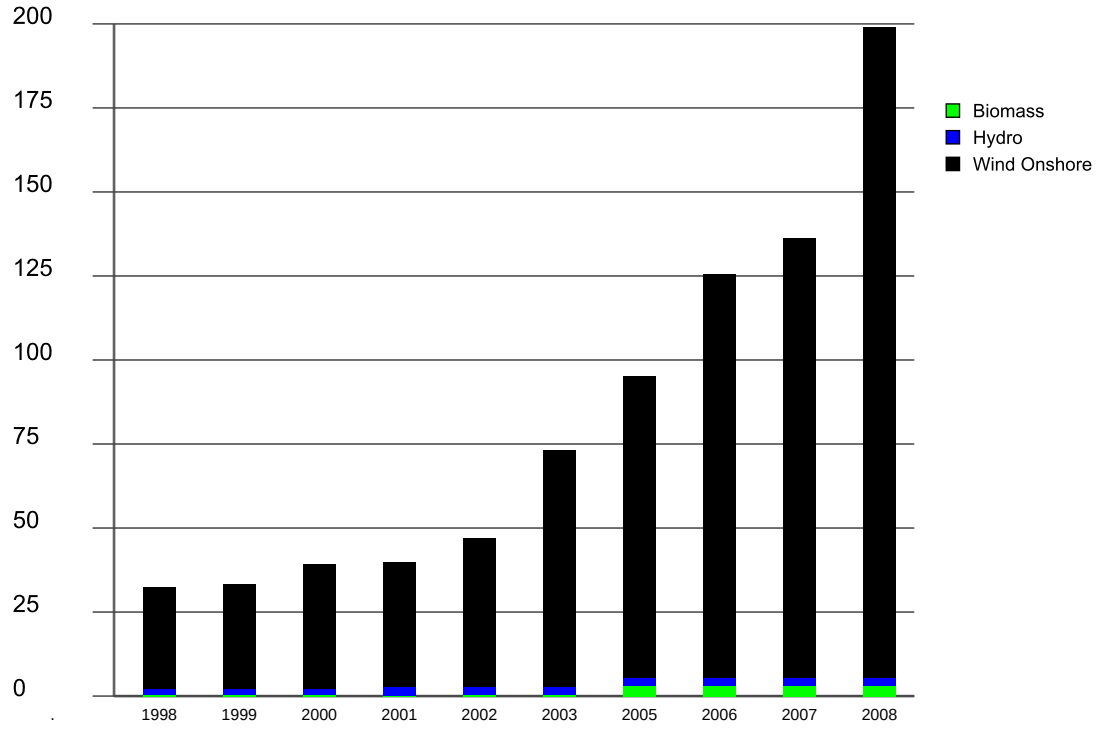


Between 1999 and 2006 the number of planning applications submitted increased dramatically, rising from 1 submission in 1999 to 23 in 2005 and 21 in 2006. However, in 2007 only 5 planning applications were submitted (all of which were for Wind Onshore projects) and there has only been one submission so far in 2008 (for a Biomass scheme).

The number of planning applications approved has risen steadily from no approvals in 2002 to a peak of 8 approvals in 2007. There have been no approvals recorded between January and November 2008. The only planning refusal shown in Figure 4.1 was for a Wind Onshore application that was refused in 2005, principally due to visual impact in an AONB (a further refusal for a Wind Onshore application in 2005 is not shown as the submission date is not known).

Figure 4.2 is a cumulative histogram illustrating the installed capacity of renewable energy projects becoming operational each year from 1999 - November 2008. The data is broken down into the contribution made by each technology.

Figure 4.2 Cumulative installed capacity (MW) of operational schemes 1998 to November 2008



Note that the discrepancy between the cumulative total to 2008 (199MW) and the actual total of all operational projects in Northern Ireland (219MW) exists because the date of first generation is not known for some operational projects. Nevertheless the trend is assumed to remain the same.

The installed capacity of Biomass (3MW) has not increased since 2005. Similarly, the installed capacity of Hydro (2MW) has not increased since 2002. The contribution of Wind Onshore has become increasingly important in the growth of overall operational renewable energy in Northern Ireland, rising from 30MW in 1998 to 194MW in November 2008.

4.1 Progress to 2010 targets

The Renewables Obligation replaced the NFFO as the main renewables support mechanism in 2002. The Obligation requires all licensed electricity suppliers in England and Wales to supply a specific proportion of their electricity from renewable energy. The annual obligations were originally specified up to 2010, rising incrementally from 3.4% in 2003 to 10% in 2010. This has recently been extended through to 2015 when a target of 15% will apply. The Scottish equivalent, the Renewables Obligation Scotland (ROS), operates on the same basis but with raised percentage obligations of up to 18% by 2010.

The purpose of this section is to try and establish how effective the RO and ROS mechanisms are in helping to deliver the UK's overall target of providing 10% of electricity supplied from renewable sources by 2010.

Throughout this report, the installed capacity of renewable energy projects and planning applications is considered. However, in order to compare the schemes recorded in the 'Planning, Monitoring and Review of Renewable Energy projects' database with the UK targets, the likely contribution (in terms of actual electricity generated) must be considered.

The electricity generated (or potential electricity generated) has been calculated based on the average UK load factors recorded between 2000 and 2007 for each technology *[2]*. For Offshore wind, data was only available for 2004 - 2007.

Based on these load factors, the current operational, installed capacity in Northern Ireland should equate to approximately 0.53TWh electricity produced per annum. If all the projects which have been approved are built and commissioned, then the resulting installed capacity would increase to 424MW, and should equate to approximately 1.02TWh electricity produced per annum.

Assuming the approval and refusal rates for each technology (by number of projects) continues at the same rates as experienced from Jan 2000 to present (see Figure 4.1 above), a further 1,097MW renewable energy capacity might be anticipated to be given planning consent. Note that this methodology assumes that a larger project (in terms of installed capacity) is no more or less likely to achieve planning consent than a smaller one. It is also worth highlighting that application refusal rates for all renewable energy projects in Northern Ireland have been exceptionally low (only two refusal recorded), with the increase in number of applications since 2002, refusal rates should probably be expected to increase.

Nevertheless assuming all these projects and all the existing approved projects are built and commissioned, the resulting installed renewable energy capacity in Northern Ireland would be 1,521MW, and should equate to approximately 3.73TWh electricity produced per annum.

The total UK electricity demand in 2010 has been derived from the BERR's latest projections (UK Energy and CO2 Emissions Projections, July 2006). Assuming growth in electricity demand follows the baseline electricity demand growth model (the 'middle ground' predictions), the UK is anticipated to have a total electricity demand of 29.7Mtoe by 2010. This equates to 352TWh electricity supplied per annum. According to the Renewable Obligation targets, 35.2TWh will need to be generated from renewable energy schemes by 2010.

3.73TWh renewable electricity generation, provided within Northern Ireland would represent 10.6% of this overall UK target. Within the renewable matrix described above, almost all of

the electricity generated would be produced by Onshore wind projects.

[2] Table 7.4 Capacity of, and electricity generated from renewable sources (www.dtistats.net/energystats/dukes7_4.xls)

5. Conclusion

During the quarter September 2008 - November 2008, the monitoring programme has not identified any new planning applications being submitted, refused or approved and there have been no appeals decided.

At the end of November 2008, 35 renewable energy projects with a combined installed capacity of an estimated 219MW have been recorded as operational in Northern Ireland. A total of 51 renewable energy projects are currently recorded in the monitoring programme as having been submitted for determination. The estimated installed capacity of these projects is 1164MW.

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If half the submitted planning applications were approved, built and commissioned, and all the approved applications are built and commissioned, the installed renewables capacity in Northern Ireland would increase by 787MW to 1006MW.