WIRRAL COUNCIL

CABINET

15 APRIL 2011

SUBJECT:	**LOCAL DEVELOPMENT FRAMEWORK FOR WIRRAL - EVIDENCE BASE - RENEWABLE ENERGY CAPACITY STUDIES**
WARD/S AFFECTED:	**ALL**
REPORT OF:	**INTERIM HEAD OF CORPORATE SERVICES**
RESPONSIBLE PORTFOLIO HOLDER:	**COUNCILLOR ANDREW HODSON**
KEY DECISION?	**YES**

1.0 EXECUTIVE SUMMARY

1.1 This report sets out the main findings of two studies on the capacity for producing low carbon and renewable energy in the North West and in the Merseyside sub-region. The regional study suggests that almost a third of the demand for electricity could come from onshore and offshore renewable energy resources by 2020 and concludes that micro-generation is likely to be the most significant source of renewable energy for Merseyside. The sub-regional study identifies the potential to accommodate a new district heating system at Wirral Waters and outlines a suggested approach for consistently promoting energy efficiency and low carbon development across the sub-region.

2.0 RECOMMENDATION

2.1 That Cabinet recommends to Council that the findings of the North West Renewable and Low Carbon Energy Capacity and Deployment Study (September 2010) and the Liverpool City Region Renewable Energy Capacity Study (Stage 1 - December 2009 and Stage 2 - February 2011) are adopted as a material planning considerations in the determination of individual planning applications and are used to inform the content of future planning policy in the Council's emerging Local Development Framework.

3.0 REASON/S FOR RECOMMENDATION

3.1 To authorise the use of the latest evidence on the capacity for the generation of renewable, decentralised and low carbon energy in future planning decisions.

4.0 BACKGROUND AND KEY ISSUES

4.1 The UK is signed up to a legally binding EU target of producing 15% of its energy from renewable sources by 2020. To achieve this target, the UK Renewable Energy Strategy (DECC, 2009) aims to ensure more than 30% of electricity, 12% of heat and 10% of transport energy is generated from

renewable sources by 2020. The Coalition Government intends to increase these targets and introduce measures to encourage marine energy and to support the development of new offshore wind power facilities.

4.2 The Planning & Energy Act 2008, supported by national planning policy in the Planning and Climate Change Supplement to PPS1 (December 2007) provided for local planning authorities to establish local policies and standards on the amount of energy that should come from renewable sources in new development. This approach is, however, subject to change as part of a wider review of the national planning system.

4.3 The Regional Spatial Strategy (September 2008), which sets standards for producing renewable energy from a range of sources, is proposed to be revoked in the Localism Bill; consultation on a new National Planning Framework to replace existing national planning policy including PPS1 is scheduled to take place during 2012 and recent national consultations as well as the Government's Carbon Plan (March 2011) suggest that amendments to the Building Regulations are now likely to provide the main mechanism for achieving zero carbon buildings.

4.4 Whatever the outcome, the Council's planning policies for low carbon and renewable energy will need to be adopted as part of the Council's Local Development Framework. Two studies, that could be used to provide the basis for the Council's approach, have recently been completed. These are:

- The North West Renewable and Low Carbon Energy Capacity and Deployment Study, carried out by SQW and Land Use Consultants for the Northwest Climate Change Partnership, reported in September 2010.
- The Liverpool City Region Renewable Energy Capacity Study, undertaken by ARUP Consultants, managed by the Merseyside Environmental Advisory Service (MEAS), undertaken in two Stages between July to December 2009 and February to November 2010, reported in February 2011.

The Regional Study

4.5 The North West Renewable and Low Carbon Energy Capacity and Deployment Study (the regional study) finds that there is a very large potential source of onshore renewable energy throughout the North West Region and that a significant proportion of this is considered to be viable.

4.6 The overall results are presented in two scenarios on the basis that the demand for electricity in region as a whole by 2020 will be not be greater than the level consumed in 2008.

4.7 In the first scenario, based on national methodology and assumptions about available technology, it is anticipated that up to 15% (2,000MW) of electricity capacity could come from onshore renewable energy by 2020. This could increase to 29% (3,844MW) if offshore wind and tidal resources were included.

4.8 The second scenario adds an aspirational stretch, to suggest that up to 17% (2,260MW) could be available from onshore sources increasing to 31% (4,104MW) when offshore resources are added.

4.9 Considerable challenges and constraints in relation to economic viability, transmission systems, the supply chain and planning implications are, however, recognised in meeting the EU and UK targets by 2020.

4.10 For Merseyside, the regional study found that micro-generation was likely to be the most significant potential resource. It is anticipated that most of this would come from ground source and air source heating pumps, which would be capable of providing up to 2,516MW by 2020. A further 474MW could be generated through the use of solar thermal and photovoltaic power systems, which together could represent up to 20% of this type of resource available to the North West.

4.11 The most significant resources from onshore wind power were identified in Cumbria, Cheshire and Lancashire.

4.12 Cheshire had the largest landfill gas resource and is identified as the only sub-region with the potential for biomass co-firing due to the location of Fiddlers Ferry Power Station. Cumbria has the largest resources for plant derived biomass through managed woodland and animal biomass produced from wet organic waste.

4.13 The regional study concludes that the successful deployment of technologies to support onshore commercial wind power and micro-generation are critical to the overall growth of renewable energy, as this could account for up to 75% of the capacity by 2020; and that a further 25,000MW could be achieved from low carbon sources such as combined heat and power and district heating schemes. The local demand for electricity and heat would, however, need further investigation.

The Sub-Regional Study

4.14 The Liverpool City Region Renewable Energy Capacity Study (the sub-regional study) was carried out in two separate stages:

Stage One Study

4.15 The main findings at Stage 1 indicated that the districts were likely to have the capacity to meet and potentially exceed the refined indicative targets taken from Policy EM18 of the Regional Spatial Strategy (RSS, September 2008) for various types of renewable energy installations.

4.16 West Lancashire was found to have the greatest potential for generating on-shore wind power. Sefton and Wirral were also considered to have wind sources that could exceed the targets for power from wind set in RSS for Merseyside.

4.17 Heat and energy demand mapping showed that there was also likely to be sufficient density within Merseyside to enable the targets for bio-mass fuelled Combined Heat and Power (CHP) systems to be met.

4.18 The study identified that further investigation was needed into the feasibility of developing tidal power, geothermal energy, energy from waste, building integrated wind and photovoltaic technology.

4.19 It was recommended that Stage 2 of the study should identify priority areas for distributing land based wind turbines, biomass CHP and district heating schemes.

Stage Two Study

4.20 Stage 2 looked at future energy demand and infrastructure capacity; priority zones and areas of search; and a recommended approach to local planning policy.

Future energy demand and infrastructure capacity

4.21 Based on the potential housing growth set out in RSS, the additional demand for heat and electricity from new housing across the study area was expected to increase to 611,113(MW) by 2025. In Wirral, this could represent an increase of up to 58,536(MWh) by 2025.

4.22 Growth in employment facilities throughout Merseyside could also be expected consume an additional 156,160(MWh) by 2025.

4.23 These calculations are based a typical 3-bedroom house consuming up to 9.5MWh of heat and 4.5MWh of electricity per year; and a typical 4-storey office block consuming in the region of 250 to 350(MWh) per year.

4.24 If the anticipated housing and employment growth was delivered to target, it was calculated that sub-regional CO^2 emissions would rise to just over 100,000 tonnes in 2015 to around 230,000 tonnes by 2025 from new development alone.

4.25 The study found that there was spare capacity in electricity networks in most areas capable of carrying loads in excess of 2MVA at 33kv for new connections, sufficient to serve between 750 and 1,000 new homes. Bromborough was identified as the only area within Wirral with a capacity below 2MVA. In all these calculations, it should be noted that a large single development could have the potential to knock out significant volumes of spare capacity.

Priority Zones and Areas of Search

4.26 Wirral Waters was identified as the main priority zone for Wirral, as an opportunity to introduce district-heating facilities from the start of the development. While no other priority zones were identified for Wirral; Biossenese in Eastham; the Bidston Moss methane recovery site, where supplies of landfill gas are now slowly dwindling; the Woodside re-development proposals; Wirral International Business Park; the Port Sunlight Village biomass proposal; the proposed CHP plant at Tesco's in Heswall; and the infrastructure for receiving the power generated from the Burbo wind farm were all identified as schemes or projects that could contribute to the local renewable energy supply.

4.27 After considering the impact on the value of local landscapes it was not considered possible to identify a suitable location within Wirral that could be designated for accommodating a large-scale onshore wind farm.

Approach to Planning Policy

4.28 RSS Policy EM18 requires 10% of the energy used in major development to come from decentralised and renewable or low carbon sources, unless it can be demonstrated that this is not feasible or viable. The Council's validation checklist can also require applicants for planning permission to submit a climate change assessment or sustainability checklist, which specifies measures for utilising renewable energy. The Government, nevertheless, indicated that local planning targets will no longer be needed by 2013.

4.29 Set against this background, the sub-regional study suggests some model policy wording to ensure a consistent approach is taken by each Authority across the sub-region. This proposes that standards in the emerging Building Regulations should be used as a baseline for applicants to demonstrate, through an energy plan, how improvements in carbon emissions associated with the development would be achieved. Developers would also be expected to connect with an existing or scheduled district heating scheme or to make a financial contribution to developing a local district heating network through a legal agreement where commercially feasible plans are in place. A tool that could be used for checking the viability of a scheme is included as an appendix to the study report.

4.30 In addition, it is suggested that provision needs to be made to accommodate large-scale, grid-connected renewable energy infrastructure and onshore equipment for off-shore energy schemes, subject to the successful mitigation of environmental effects.

Other Recommendations

- a mechanism is needed to coordinate future work between the partners to improve monitoring and help create the right environment for low carbon development;

- site specific investigation is needed into the feasibility and viability of district heating priority zones, to understand how development can contribute to and connect with networks and identify potential sites for energy centres;

- opportunities to create wider 'low carbon economic trade zones' and areas with potential to link to economic growth and regeneration should be investigated;

- the partners should continue to identify other potential priority zones;

- a consistent approach to planning policy should be taken by each authority and consideration should be given to using the recommended policy wording in the Core Strategy;

- investment is required in the resources and skills necessary to deliver local low and zero carbon energy;

- detailed site appraisals of proposals within the broad areas of least constraint for wind power should be carried out at the development application stage, to take account of any further constraints and review community impacts; and

- a study of the implications of changes to the Building Regulations on developer willingness to invest in areas with and without decentralised heat networks is recommended, especially where large scale energy facilities are likely to be opposed or where the willingness to invest in front loading the creation of suitable infrastructure is limited.

5.0 RELEVANT RISKS

5.1 The issues associated with the generation of renewable and low carbon energy have complex economic and environmental implications in a rapidly changing technological context.

5.2 The Planning and Compulsory Purchase Act 2004 requires the Council's Local Development Framework to be founded on a robust and credible evidence base in conformity with national policy. National policy is subject to significant change.

5.3 New proposals, being brought forward as part of the Localism Bill, could require fines to be payable where EU targets are not met through the actions of local authorities.

6.0 OTHER OPTIONS CONSIDERED

6.1 No other options have been considered, as this report sets out the findings of regional and sub-regional studies into the capacity of the area to generate renewable and low carbon energy. Further proposals will be considered as part of the preparation of the Core Strategy Development Plan Document later in the year.

7.0 CONSULTATION

7.1 The studies referred to will be made available for public inspection alongside the publication of the Core Strategy Development Plan Document later in the year.

8.0 IMPLICATIONS FOR VOLUNTARY, COMMUNITY AND FAITH GROUPS

8.1 The are no implications arising directly from this report but community based renewable and low carbon energy projects could in future be promoted and operated by voluntary, community and faith groups.

9.0 RESOURCE IMPLICATIONS: FINANCIAL; IT; STAFFING; AND ASSETS

9.1 The North West Renewable and Low Carbon Energy Capacity and Deployment Study were funded by the North West Regional Development Agency.

9.2 The two-stage Liverpool City Region Renewable Energy Capacity Study was funded through a partnership between the Councils of Halton, Knowsley, Liverpool, St Helens, Sefton, Warrington and West Lancashire, TMP and the Merseyside Innovation and Efficiency Partnership.

9.3 The Council's contributions, for Stage 1 of £3,000 and for Stage 2 of £2,500, were funded from the previous Area Based Grant Allocation for Climate Change. The total cost for the Stage 1 study was £44,000. The total cost for the Stage 2 study was £41,000.

10.0 LEGAL IMPLICATIONS

10.1 The studies will need to be adopted by the Council as material considerations in future planning decisions and for inclusion in the Local Development Framework.

11.0 EQUALITIES IMPLICATIONS

11.0 There are no specific equality implications arising from this report.

11.2 An Equality Impact Assessment (EIA) is not required as the studies will form part of the evidence base for the Local Development Framework, which will itself be subject to a future EIA.

12.0 CARBON REDUCTION IMPLICATIONS

12.1 The studies will used as evidence for developing future planning policies, which will assist in reducing carbon emissions.

13.0 PLANNING AND COMMUNITY SAFETY IMPLICATIONS

13.1 The studies will used as evidence for developing future planning policies for renewable, decentralised and low carbon energy and as material planning considerations in future planning decisions.

REPORT AUTHOR: **Eddie Fleming**
(Principal Planning Officer)
telephone: (0151 691 8129)
email: eddiefleming@wirral.gov.uk

APPENDICES

1. Liverpool City Region Renewable Energy Capacity Study (Stage 1 Report, December 2009) can be viewed in the Council's web based document library.
2. Liverpool City Region Renewable Energy Capacity Study (Stage 2 Report, February 2011) can be viewed in the Council's web based document library. .

REFERENCE MATERIAL

The UK Renewable Energy Strategy (DECC, 2009) can be viewed at: http://www.decc.gov.uk/assets/decc/What%20we%20do/UK%20energy%20supply/Energy%20mix/Renewable%20energy/Renewable%20Energy%20Strategy/1_20090717120647_e_@@_TheUKRenewableEnergyStrategy2009.pdf

HM Government Carbon Plan (DECC, March 2011) can be viewed at: http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/1358-the-carbon-plan.pdf

North West Renewable and Low Carbon Energy Capacity and Deployment Study (September 2010) can be viewed at http://www.sqw.co.uk/file_download/245

SUBJECT HISTORY (last 3 years)

Council Meeting	**Date**
Cabinet – Local Development Framework - Core Strategy - Preferred Options (Minute 89)	22 July 2010
Cabinet - Local Development Framework – Core Strategy Development Plan Document - Public Consultation on Issues and Objectives (Minute 274)	27 November 2008